

January 2015

Mecklenburg County Residential Trash and Recycling

Set-Out Rate Study & Phone Participation
Survey Analysis

RRS

Myers Research

A. Goldsmith Resources



Scope of Study

Background

Mecklenburg County is committed to reducing landfilled waste every year by implementing environmentally responsible practices to protect and preserve the environment and natural resources.

One commitment the County made was the transition to single-stream recycling in 2010. Prior to that transition, the County conducted a recycling container participation and set-out rate study for all seven municipalities in the County in 2009 to measure direct curbside recycling behavior.

What were we asked to do?

In a follow-up to the 2009 study, the County was seeking to conduct a similar study including a visual curbside container set-out rate study for both recycling and household waste containers for each municipality. In addition, the County was seeking to complete a detailed survey of each municipality answering questions from a representative sample of residents related to satisfaction, participation, receptiveness, knowledge/awareness, effects, preferences, and behavior as it relates to current and desired recycling and waste collection practices.

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Methodology

Key Findings

Results

Overall

By Town

Comparison among Towns

Comparison to 2009 Results



vs.



COMPARISON OF TELEPHONE SURVEY AND SET-OUT RATE ANALYSIS



CONCLUSIONS AND RECOMMENDATIONS



Telephone Survey



Methodology

Myers Research | Strategic Services, LLC designed and administered this telephone survey conducted by professional interviewers. The survey reached 400 adults, 18 years or older, who indicated they lived in Charlotte in a single-family detached house or a single-family attached house or townhouse and either have a curbside recycling cart or use a red curb-it bin for recycling. The survey was conducted October 29-30, 2014.

Telephone numbers were generated by a random selection of adults from the TargetSmart file, including both registered voters and unregistered adults. The sample was stratified by city council district. Quotas were assigned to reflect the distribution of adults in these areas. The data were not weighted. The sample size is 400.

In interpreting survey results, all sample surveys are subject to possible sampling error: that is, the results of a survey may differ from those which would be obtained if the entire population were interviewed. The size of the sampling error depends upon both the total number of respondents in the survey and the percentage distribution of responses to a particular question. For example, if a response to a given question to which all respondents answered was 50%, we could be 95% confident that the true percentage would fall within plus or minus 4.9% of this percentage or between 45.1 and 54.9%.



Key Findings



Most Charlotte residents who have recycling carts are familiar with their collection day and place their cart or bin at the curb on recycling day

Broad majority favors local or statewide recycling requirement; narrower majorities favor no cost recycling/pay for garbage and ban on disposal of recyclable materials in trash carts, but fewer support enforcement of these efforts

About HALF of residents...

...are familiar with business recycling ordinance

...recycle materials at County Drop-Off Centers

...wait until their recycling carts are full to set them out



Customer incentive program is broadly popular

Recycling customers are broadly satisfied with curbside recycling services and take advantage of recycling a litany of materials



Most report that they would know where to go to get information about recycling and solid waste in their area



Nearly All Residents Know Their Recycling Day

Yes or no, do you know your recycling collection day?

YES!



No.



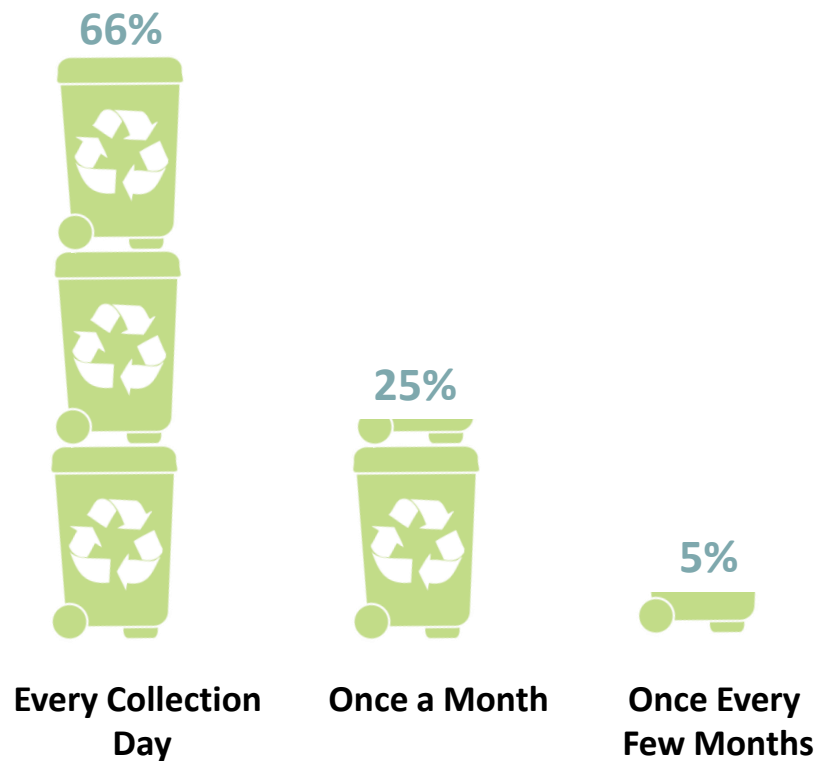


Almost All Residents Report that they Place Recycling Cart at the Curb on Recycling Days

Two-in-Three Report that they Place Cart at Curb EVERY Collection Day

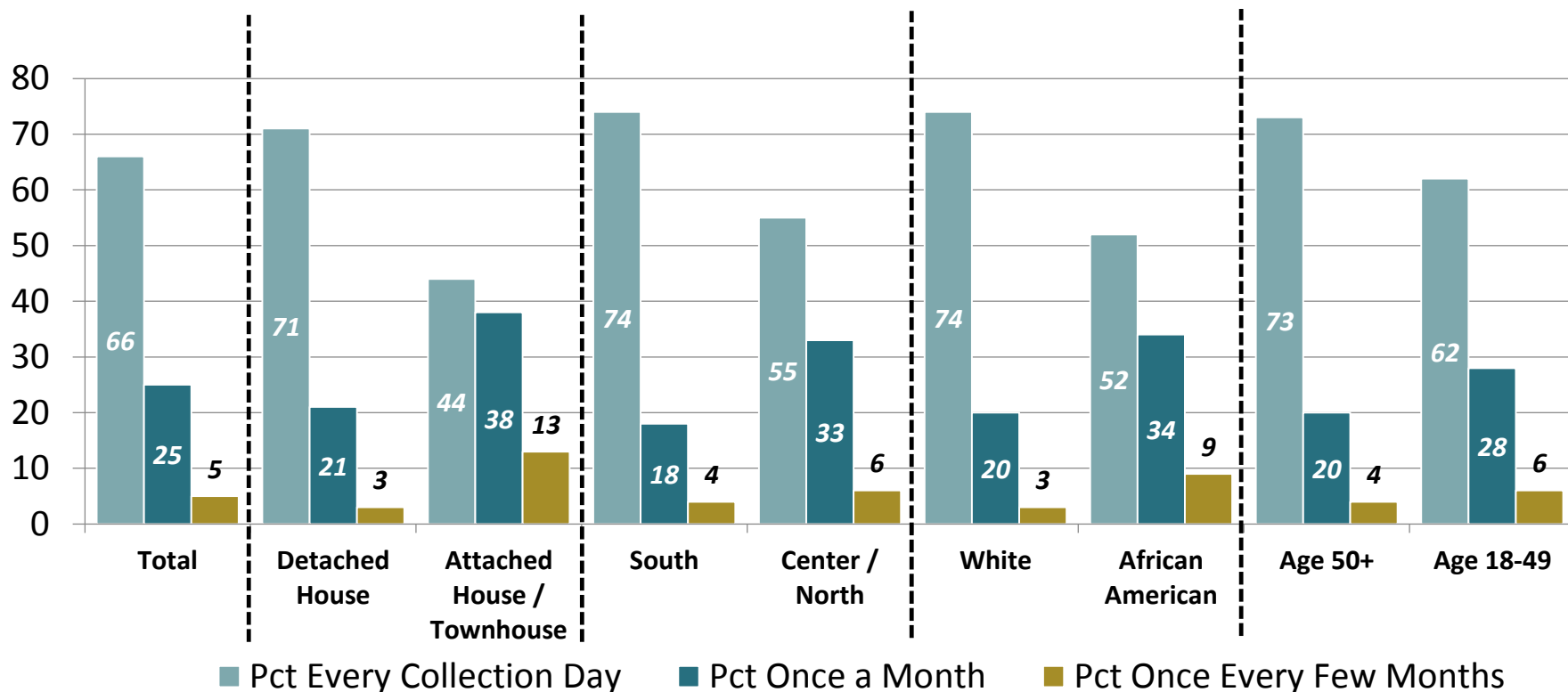
96%

of residents report that they place their recycling cart or bin at the curb on recycling collection days.



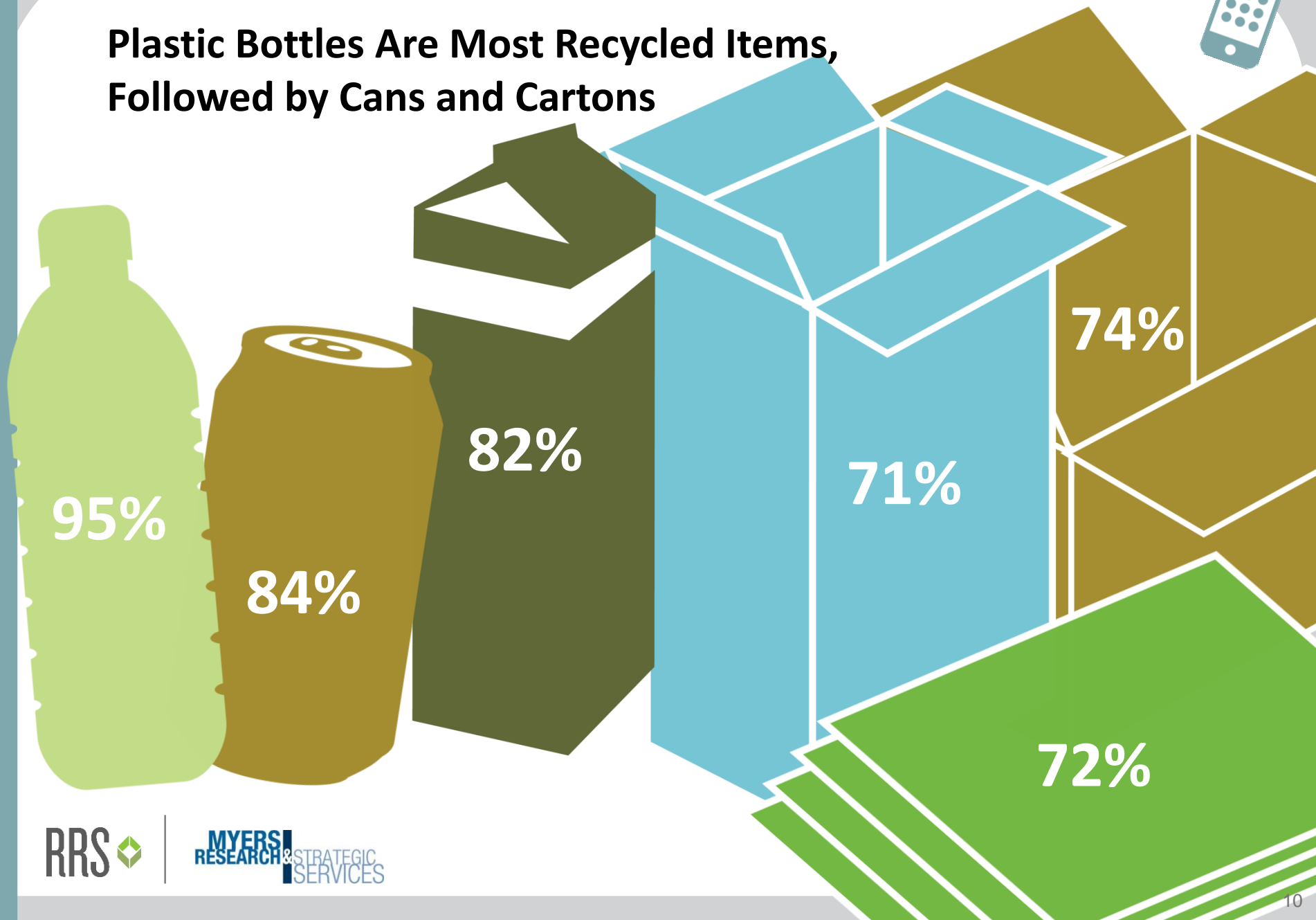


Residents Who Live in Detached Houses, the Southern Portion of City, Whites and Older Residents Most Likely to Recycle Every Collection Day



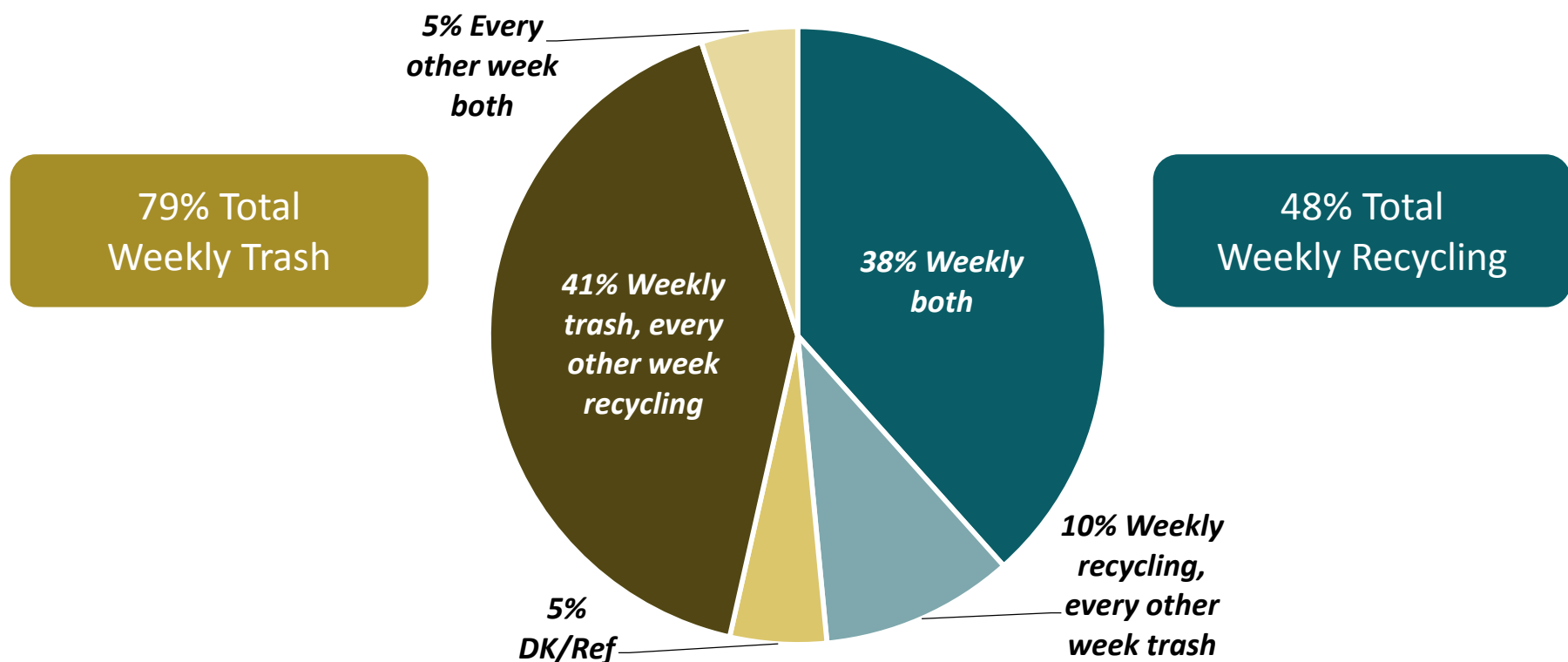
(IF YES) And how often do you place your recycling cart or bin at the curb – every collection day, once a month, or once every few months?

Plastic Bottles Are Most Recycled Items, Followed by Cans and Cartons





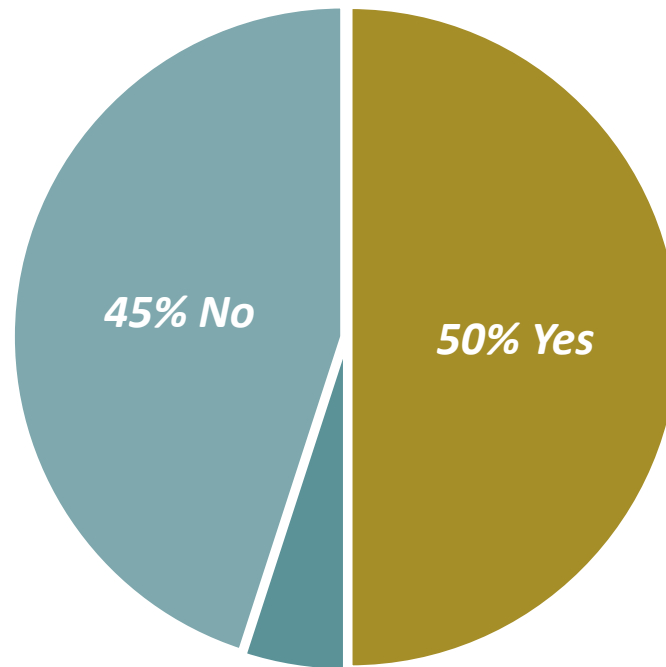
Residents Split on Desired Frequency of Recycling Collection, But Almost All Prefer Weekly Trash Collection



If you had the choice, which of the following scheduling options would you prefer for recycling and trash collection?



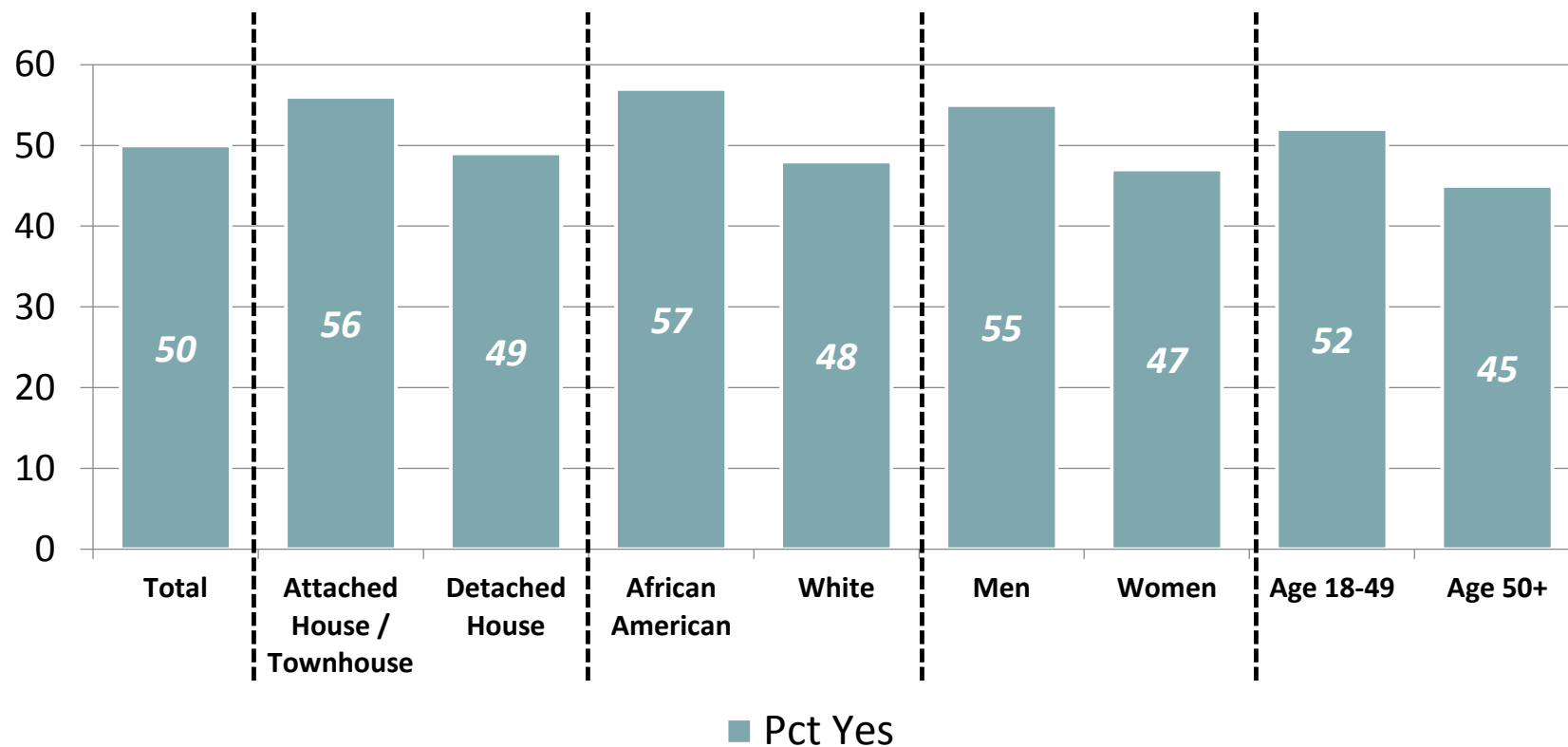
Half of Charlotte Residents Report Waiting Until Recycling Cart is Full or Close to Full Before Setting it Out



(ASKED OF THOSE WHO SET OUT CARTS) Yes or no, do you wait until your recycling cart is full or close to full before setting it out on the curb?



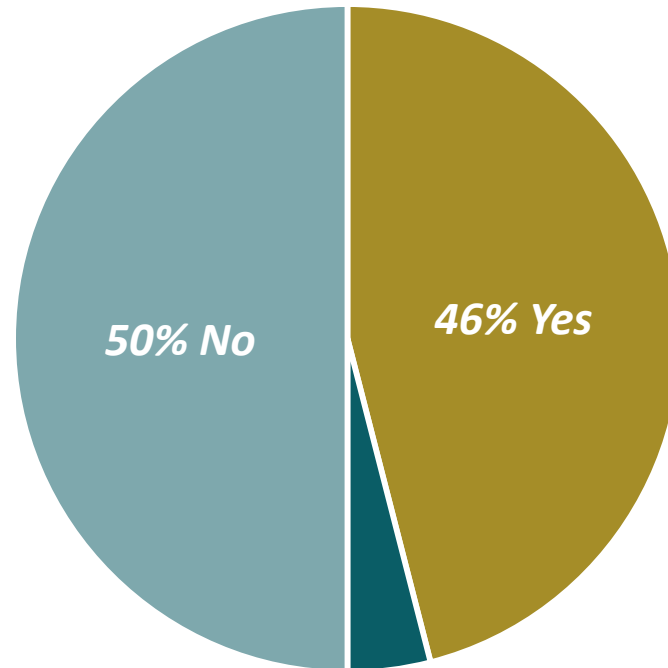
Townhouse Dwellers, African Americans, Men and Younger Residents Most Likely to Wait For Full Cart



(ASKED OF THOSE WHO SET OUT CARTS) Yes or no, do you wait until your recycling cart is full or close to full before setting it out on the curb?



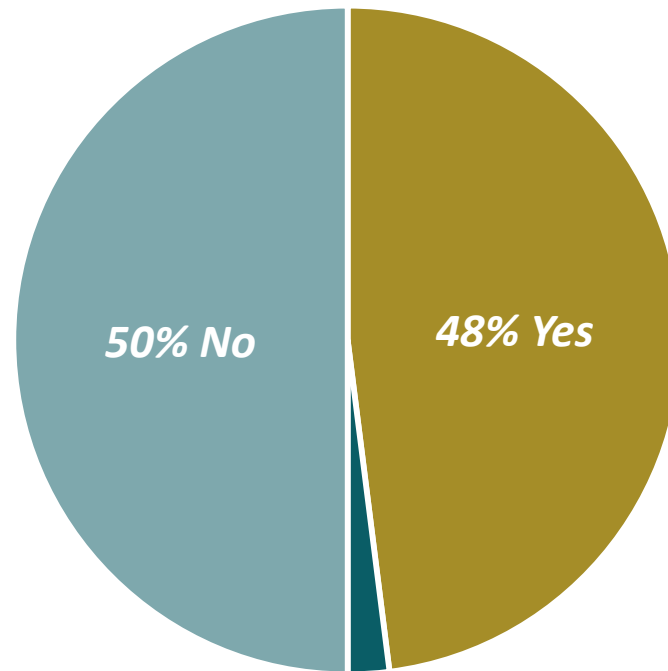
Roughly Half of Charlotte Residents Familiar with Business Recycling Ordinance



And yes or no, did you know that Mecklenburg County has an ordinance making it mandatory for many businesses to separate office paper and cardboard from the rest of their trash for the purpose of recycling?



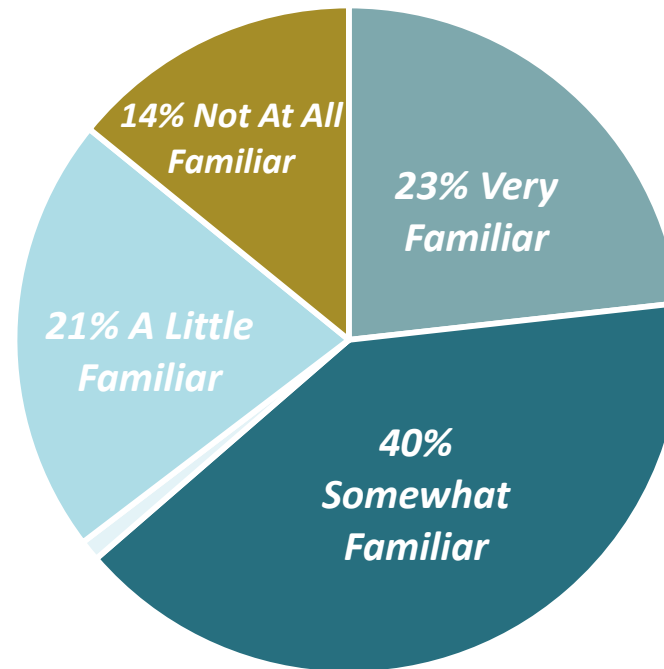
Near Majority of Charlotte Residents Report Recycling Materials at the County Drop-Off Centers



Yes or no, do you recycle materials at the Mecklenburg County Recycling Drop-Off Centers?



Most Are at Least Somewhat Familiar with Acceptable Recycling Drop-Off Center Materials, but Just 1-in-5 Are Very Familiar



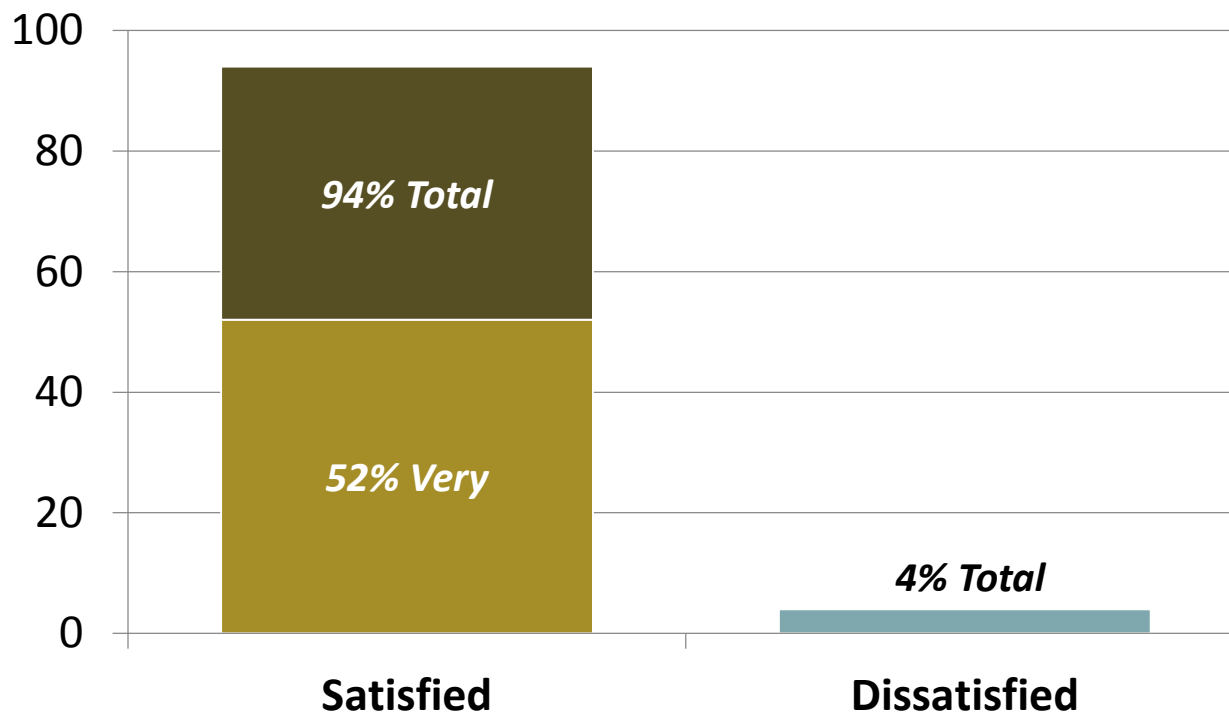
63% Very /
Somewhat Familiar

Would you say you are very familiar, somewhat familiar, a little familiar, or not at all familiar with the materials that can be recycled at the Mecklenburg County Recycling Drop-Off Centers?



Almost All Charlotte Residents Satisfied with Curbside Recycling Services

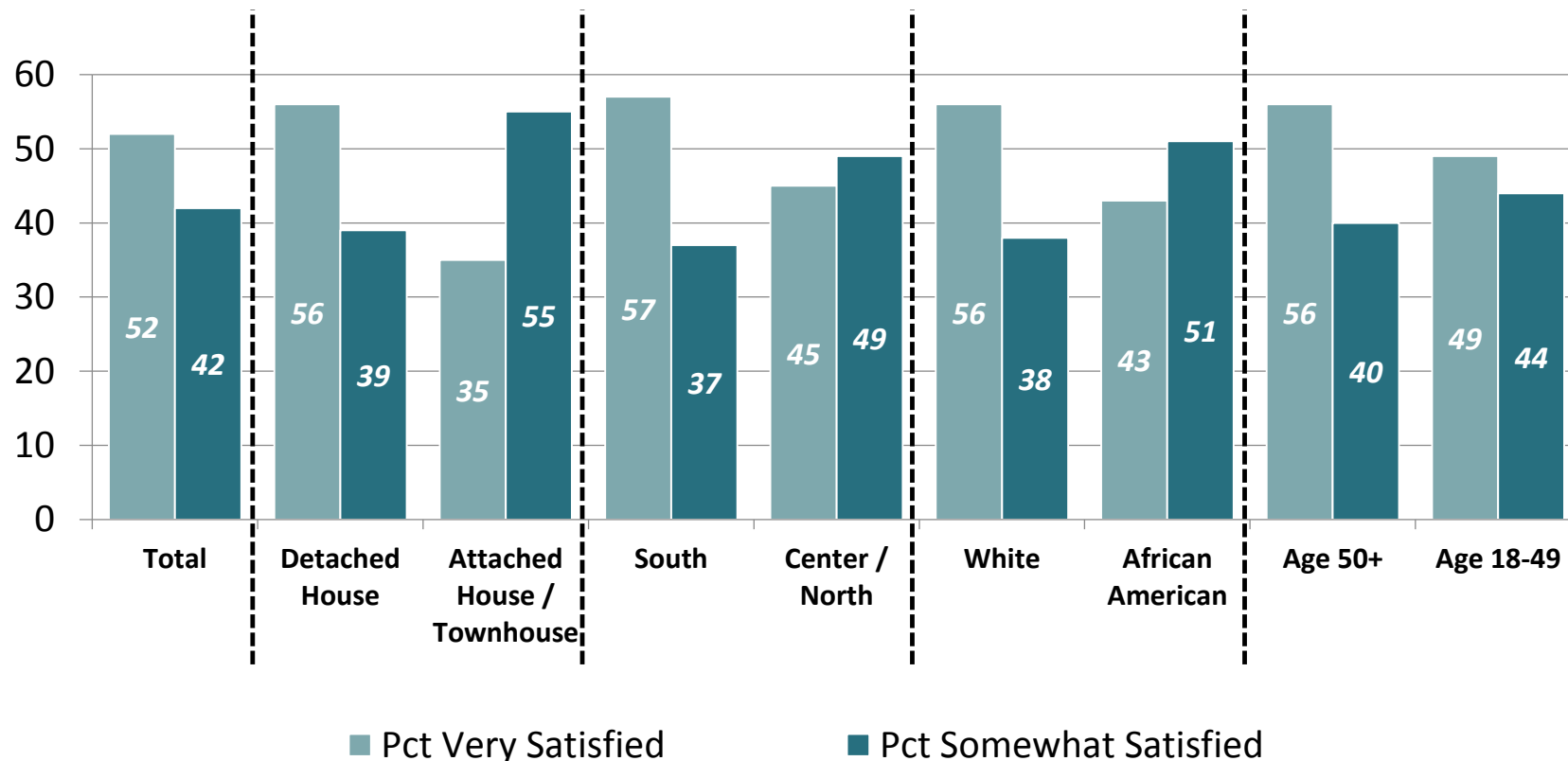
Slim Majority Are Very Satisfied



Would you say you are satisfied or dissatisfied with your current curbside recycling service?



Residents Most Likely to Recycle Every Collection Day Also Most Likely to Be Very Satisfied with Recycling Services

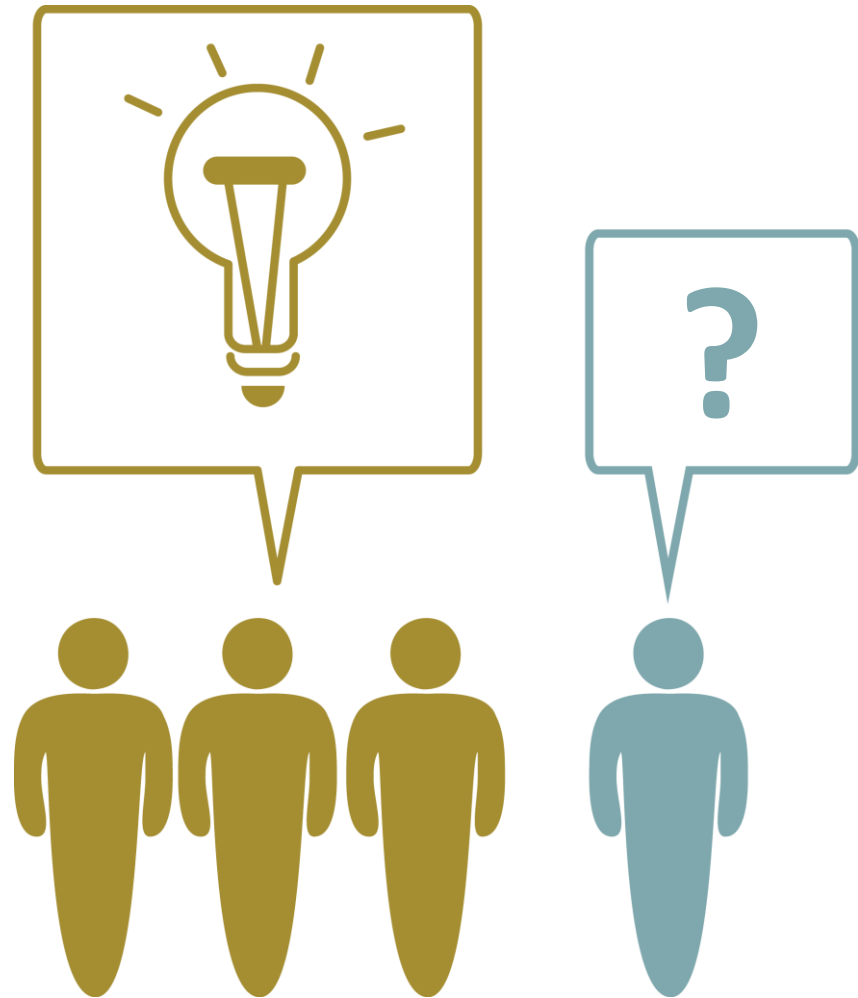


Would you say you are satisfied or dissatisfied with your current curbside recycling service?



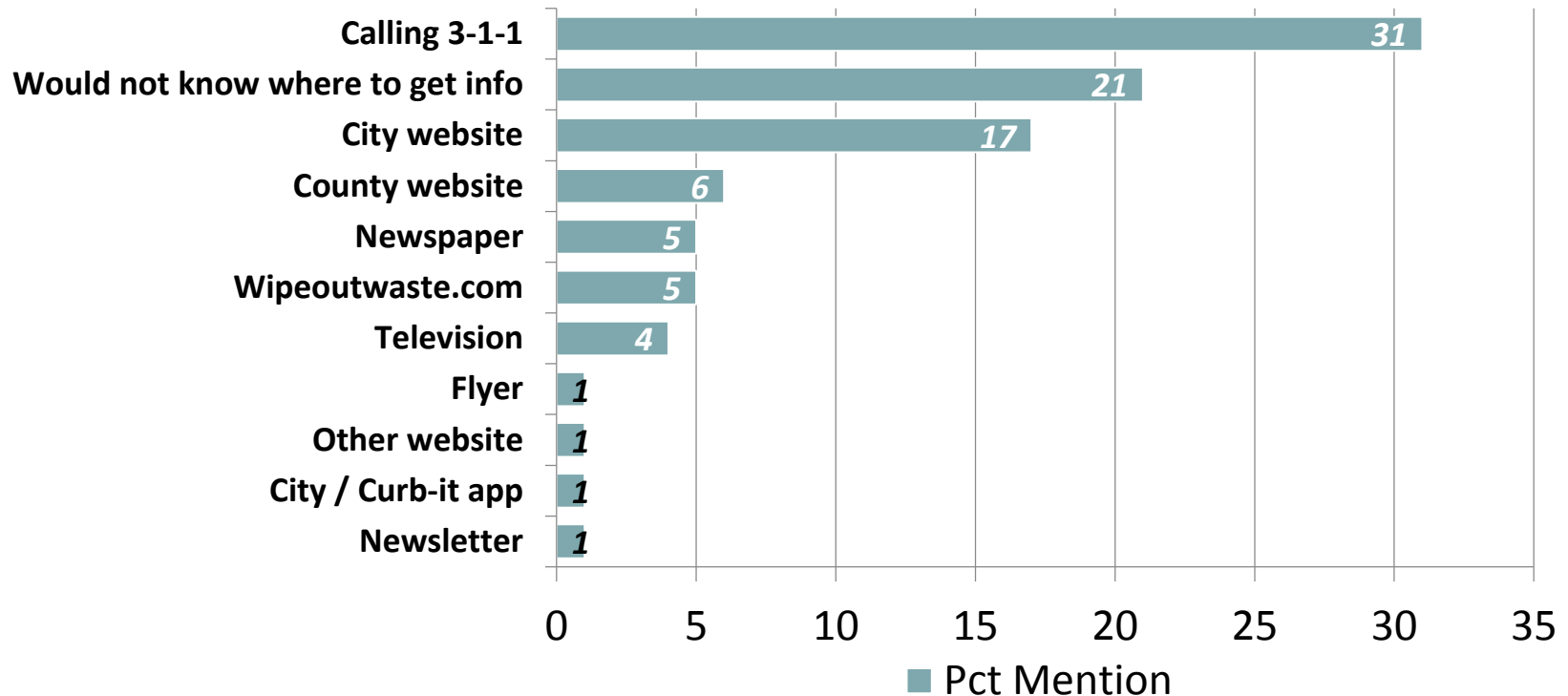
Three-in-Four Residents Say they Would Know Where to Go to Get Information About Recycling and Solid Waste Collection

If you needed to get information about recycling and solid waste collection in your area, would you know where to go to get it?





Most Would Call 3-1-1 or Visit the City's Website to Get Information About Recycling and Solid Waste Collection

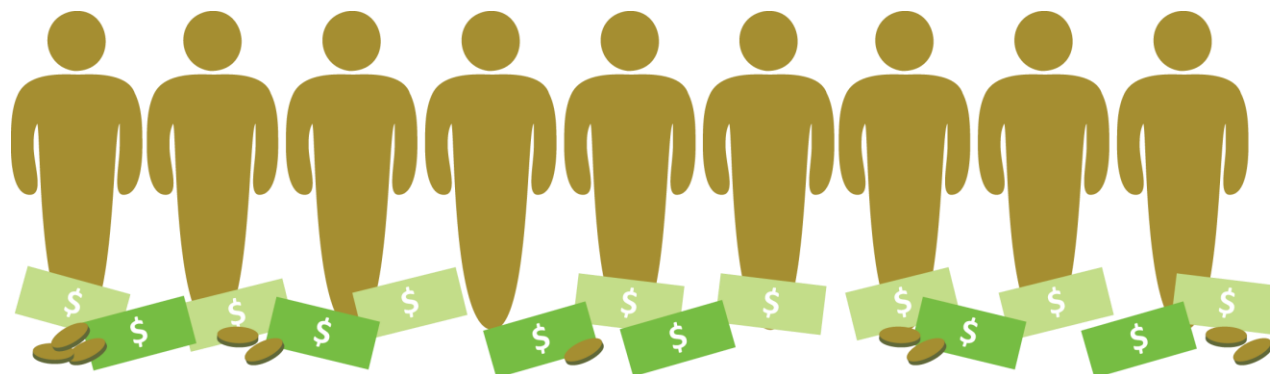


*(ASKED OF THOSE WHO SAY THEY KNOW WHERE TO GET INFO)
Where would you go for that information?*



Nearly 9-in-10 Charlotte Residents Favor Customer Incentive Programs

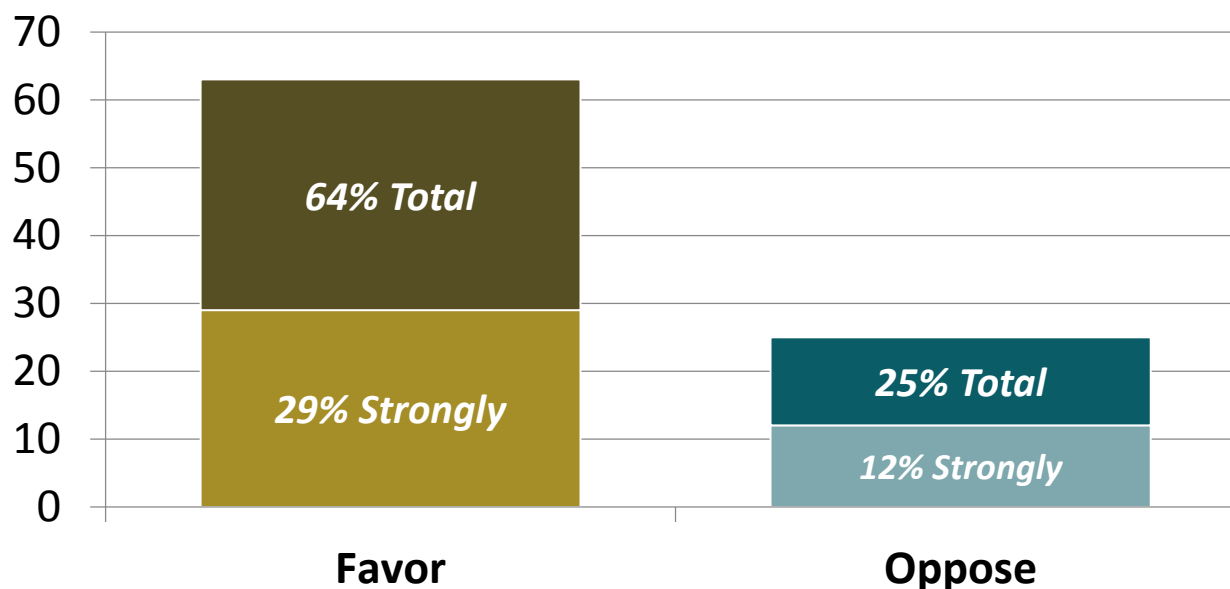
Customer incentive programs that provide rewards for recycling





Requirement to Participate in Recycling Program Favored by 2-in-3 Charlotte Residents

A local or state requirement to participate in your curbside recycling program

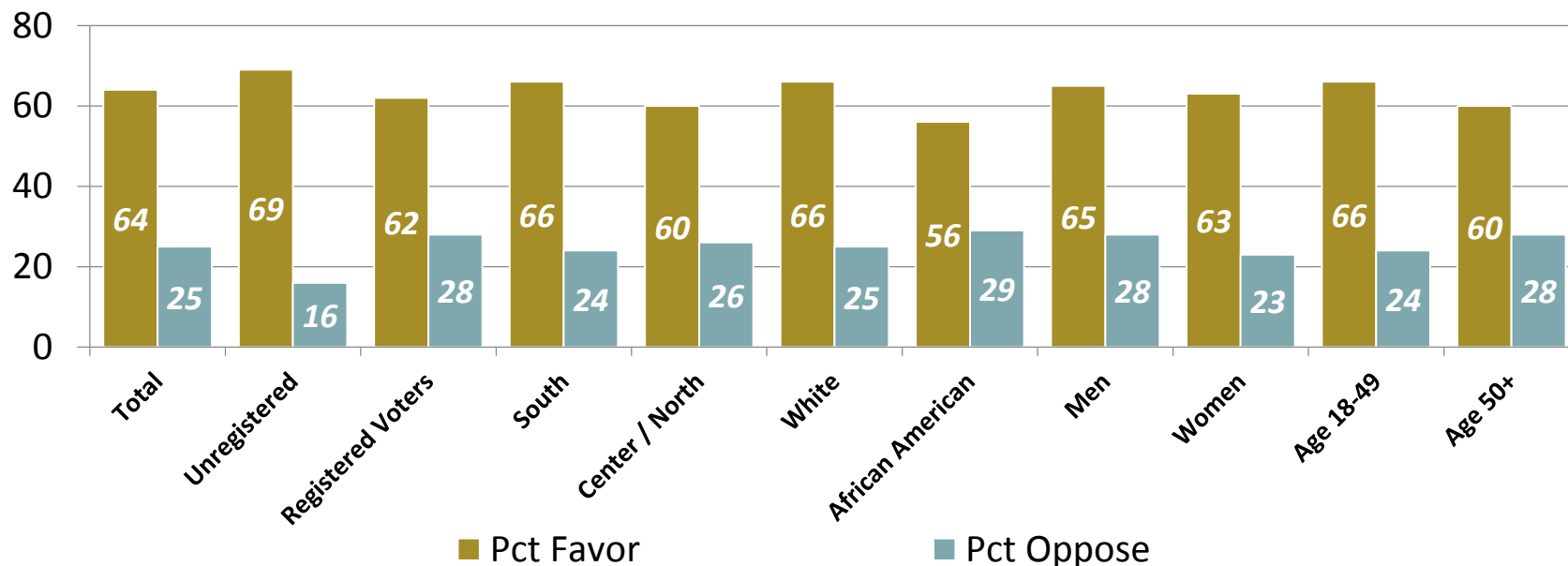


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Support for Participation Requirement Relatively Stable Across-the-Board

A local or state requirement to participate in your curbside recycling program

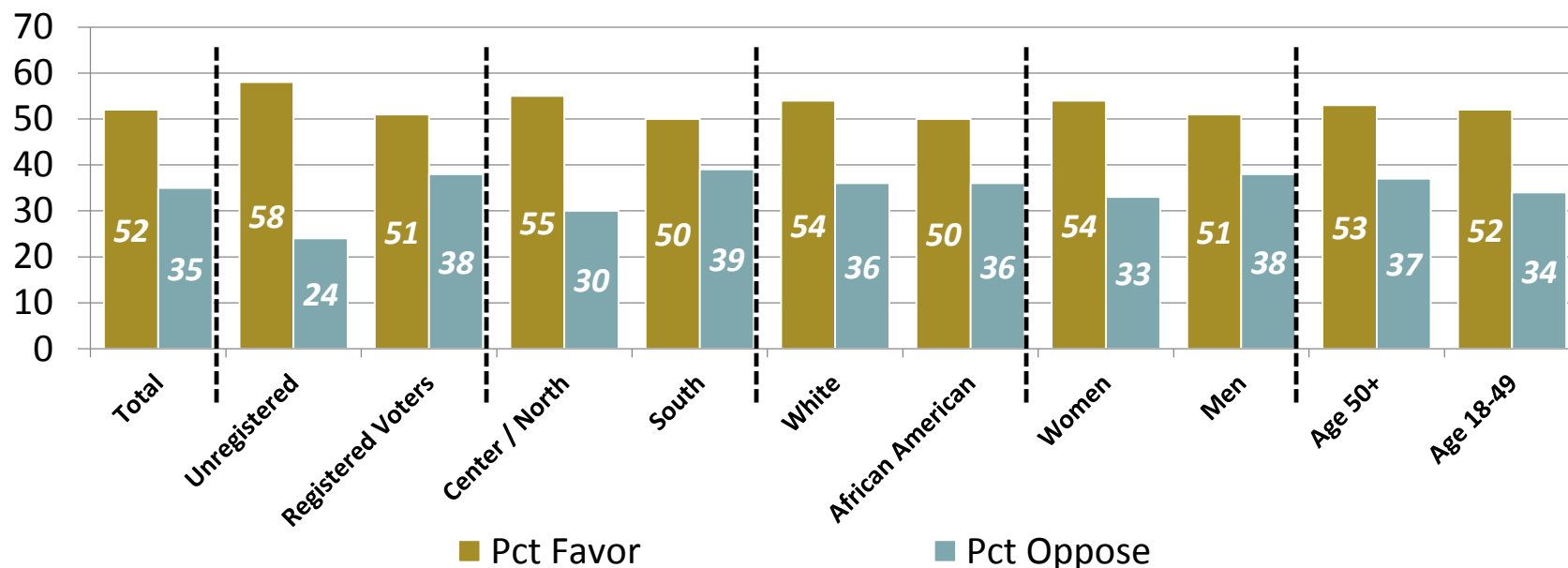


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Support for No Cost Recycling Also Relatively Stable Across Demographic Audiences

No cost or payment for recycling, but you would pay for garbage removal based on the amount of garbage you produce



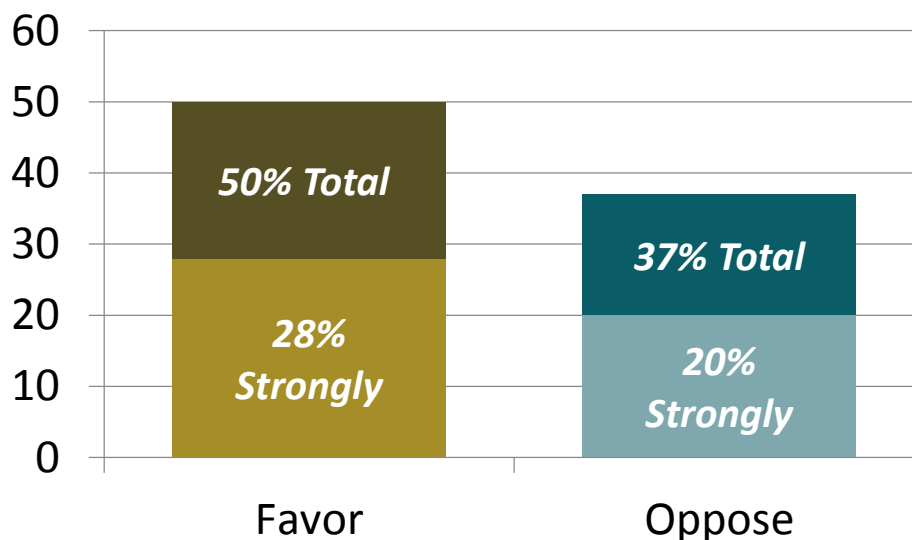
Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Bare Majority Favor Ban on Landfill-Banned Materials from Curbside Trash Carts



Banning recyclable materials that are currently banned from landfills – such as aluminum cans, plastic bottles, televisions and computer equipment – from being disposed of in curbside trash carts

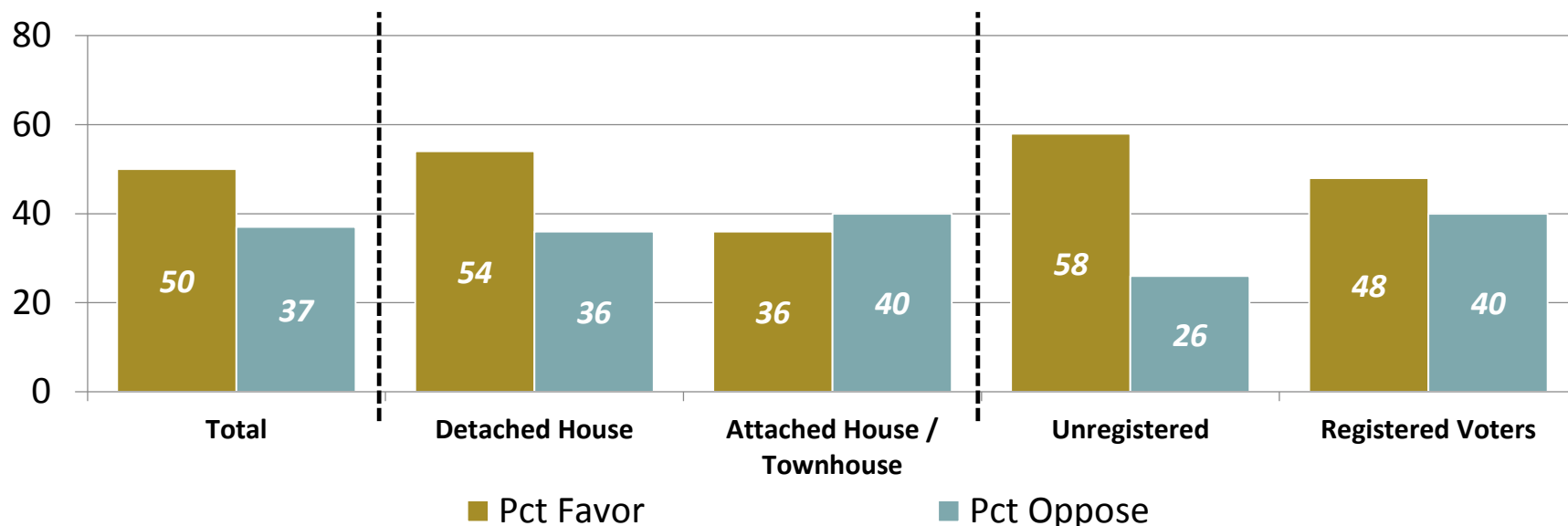


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Residents Who Live in Detached Homes and Those Not Registered to Vote More Likely to Favor Ban

Banning recyclable materials that are currently banned from landfills – such as aluminum cans, plastic bottles, televisions and computer equipment – from being disposed of in curbside trash carts

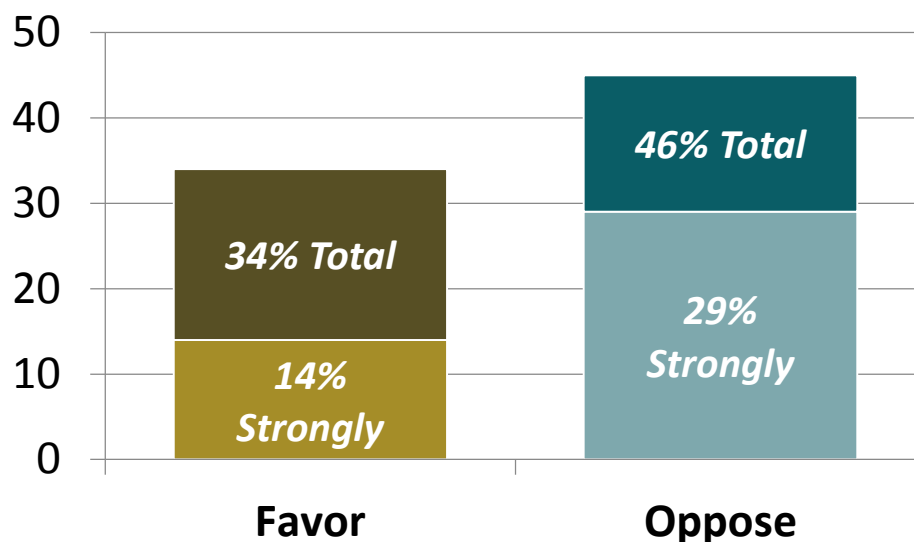


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Despite Majority Support for Proposals Themselves, Just 1-in-3 Residents Favor Enforcement

Enforcement of a requirement to participate in a curbside recycling program or a ban on recyclable materials being disposed of in curbside trash carts – from notification of infractions and increased education about infractions, to fines resulting from infractions

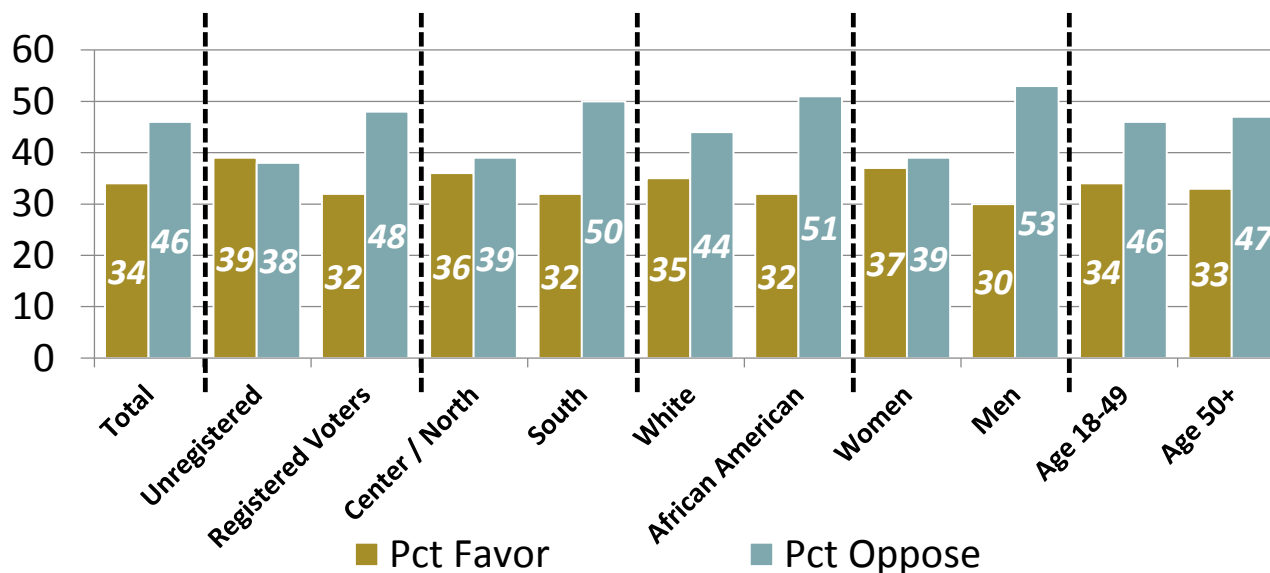


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Opposition to Enforcement Broadest Among Voters in Southern Portion of City, African Americans, and Men

Enforcement of a requirement to participate in a curbside recycling program or a ban on recyclable materials being disposed of in curbside trash carts – from notification of infractions and increased education about infractions, to fines resulting from infractions

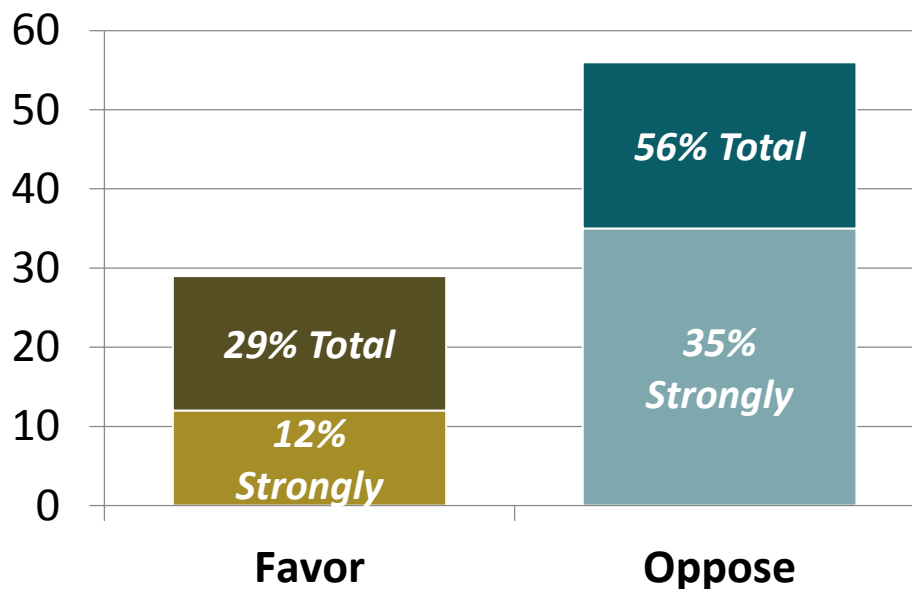


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in Charlotte. Please tell me whether you favor or oppose each program or regulation.



Solid Majority Oppose Limit on Number of Bags of Yard Trimmings

A limit on the number of bags of leaves or yard trimmings that residents can place at their curbs for pick-up

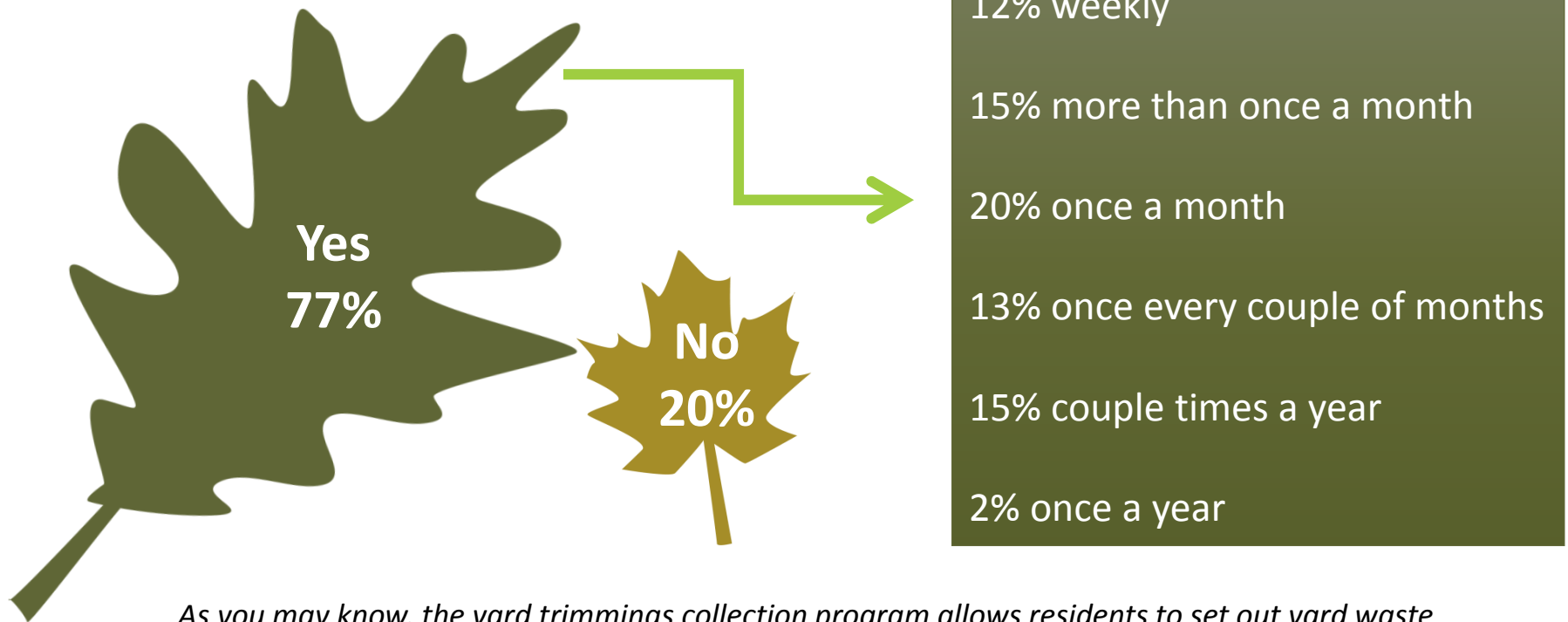


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Three-Quarters of Residents Make Use of Yard Trimmings Collection Program

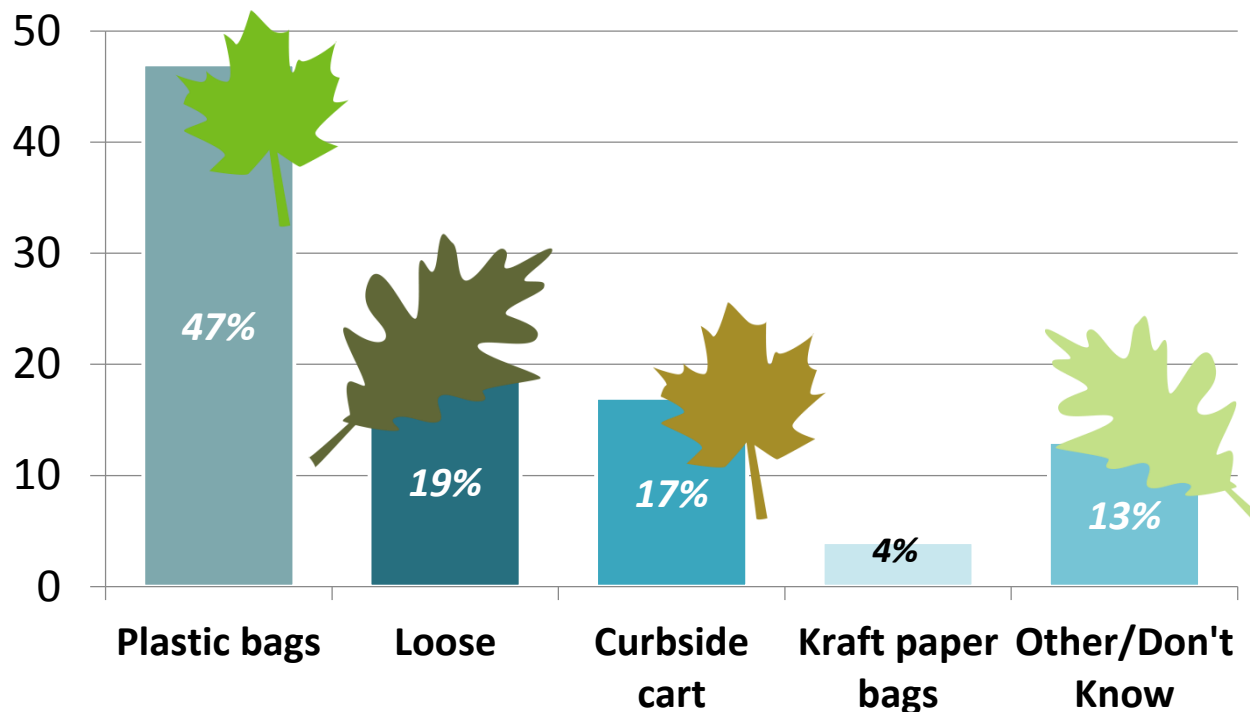
Plurality Use it Once a Month



As you may know, the yard trimmings collection program allows residents to set out yard waste for pick-up at their curbside – things like bagged grass clippings, leaves and scraps from gardening. Yes or no, do you make use of the yard trimmings collection program?



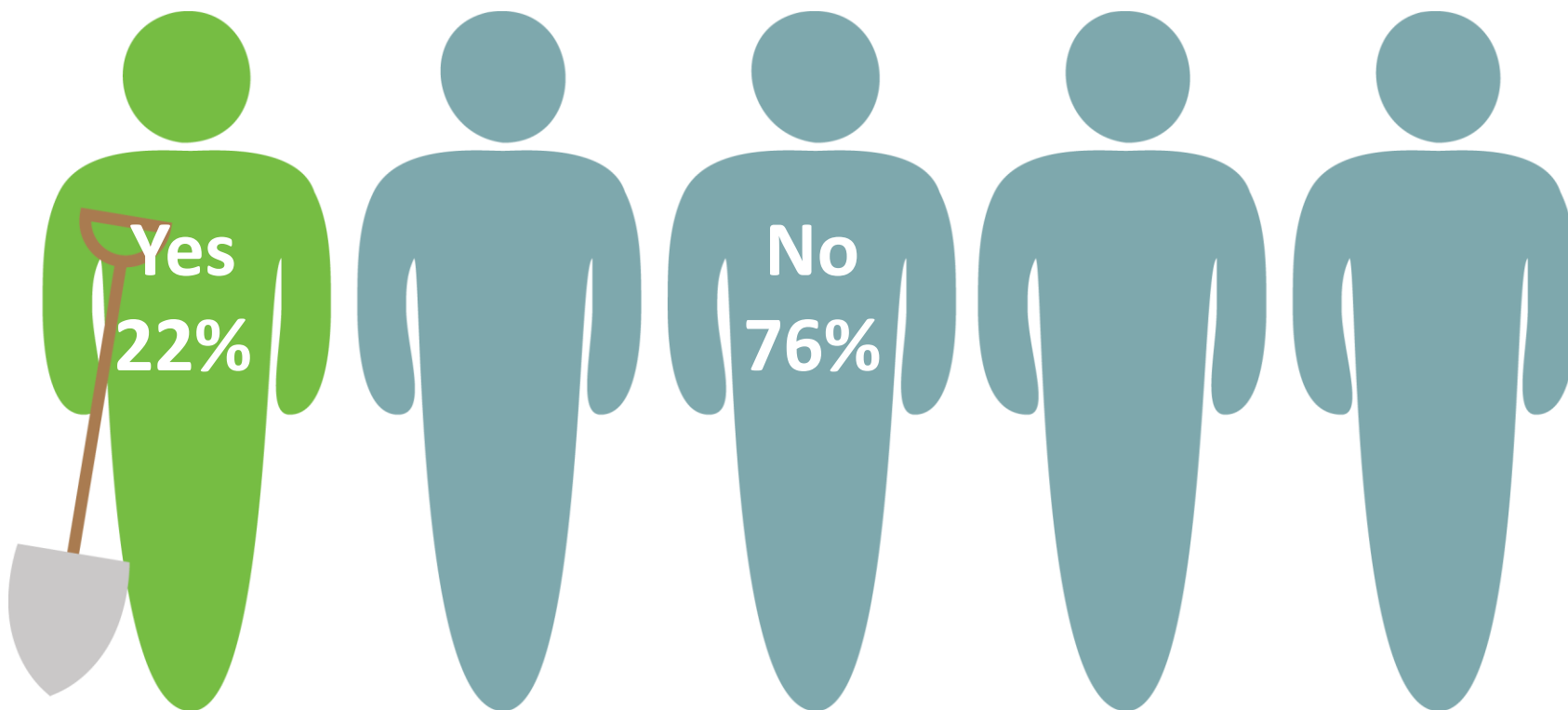
For Those Who Make Use of Yard Trimmings Collection Program, Plastic Bags Emerge as Preferred Collection Method



(ASKED OF THOSE WHO MAKE USE OF PROGRAM)
What would be your preferred collection method for yard trimmings?

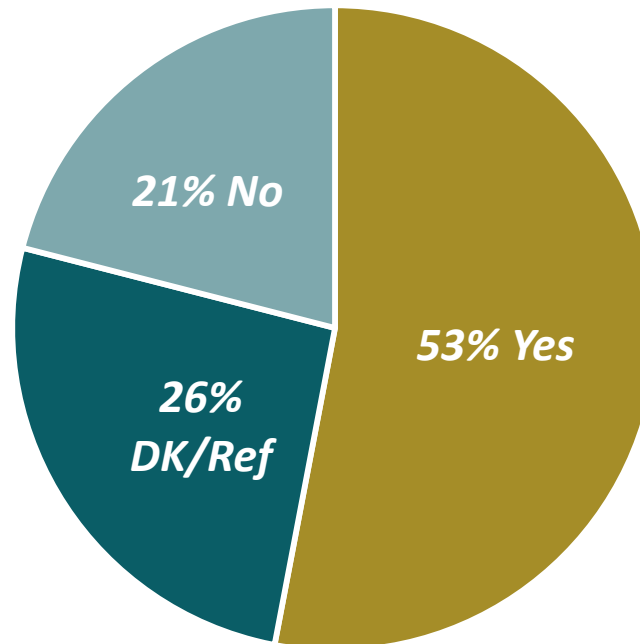


Roughly 1-in-5 Charlotte Residents Report Using Compost at Their Home





Slim Majority Believe 3-1-1 Can Be Called for Dead Animal Removal *But One Quarter Are Unsure*



To the best of your knowledge, can you call 3-1-1 to put in a request to have the city remove dead animals from the road or your property?



Methodology

Myers Research | Strategic Services, LLC designed and administered this telephone survey conducted by professional interviewers. The survey reached 1200 adults, 18 years or older, who indicated they lived in Cornelius, Davidson, Huntersville, Matthews, Mint Hill or Pineville in a single-family detached house or a single-family attached house or townhouse and have a curbside recycling cart. The survey was conducted October 29-November 4, 2014.

Telephone numbers were generated by a random selection of adults from the TargetSmart file, including both registered voters and unregistered adults. The sample was stratified by town. 200 adults in each town were reached. The data were weighted by age to ensure an accurate reflection of population. The sample size with these weights applied is 1200.

In interpreting survey results, all sample surveys are subject to possible sampling error: that is, the results of a survey may differ from those which would be obtained if the entire population were interviewed. The size of the sampling error depends upon both the total number of respondents in the survey and the percentage distribution of responses to a particular question. For example, if a response to a given question to which all respondents answered was 50%, we could be 95% confident that the true percentage would fall within plus or minus 2.8% of this percentage or between 47.2% and 52.8%. The margin of error for each town's data is +/- 6.9%.

Key Findings

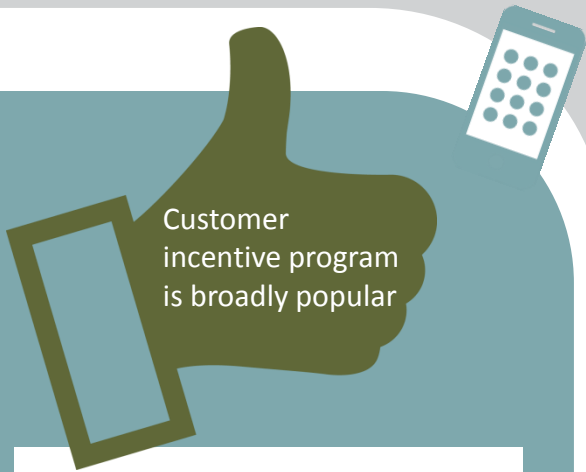


Most Mecklenburg County residents who have recycling carts are familiar with their collection day and place their cart at the curb on recycling day

Broad majority favors local or statewide recycling requirement; narrower majorities favor no cost recycling/pay for garbage and ban on disposal of recyclable materials in trash carts, but fewer support enforcement of these efforts

Recycling customers are broadly satisfied with curbside recycling services and take advantage of recycling a litany of materials

Residents are evenly divided on weekly recycling collection vs. every other week collection with some variation by town



Customer incentive program is broadly popular

Most report that they would know where to go to get information about recycling and solid waste in their area

About HALF of residents...

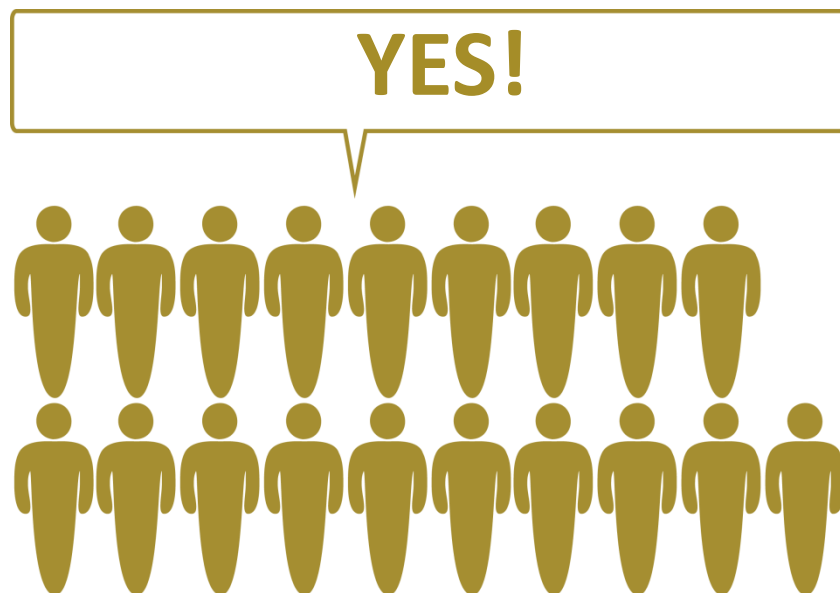
...are familiar with business recycling ordinance

...recycle materials at County Drop-Off Centers

...wait until their recycling carts are full to set them out



Nearly All Residents Know Their Recycling Day



	Pct Yes	Pct No
Cornelius	93	7
Davidson	91	8
Huntersville	95	5
Matthews	93	7
Mint Hill	96	3
Pineville	90	10

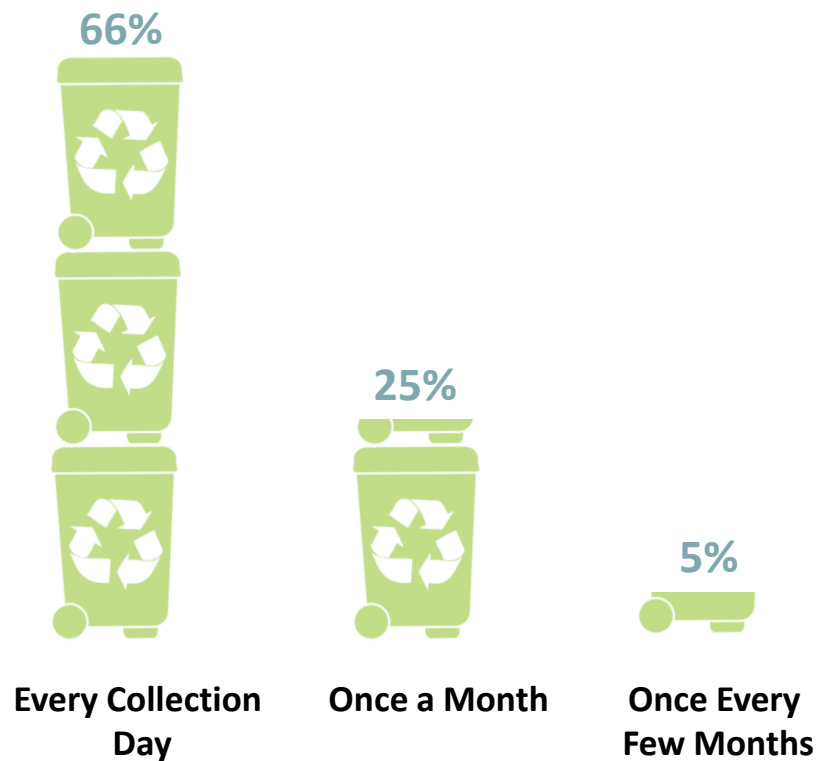


And Almost All Residents Report that they Place Recycling Cart at the Curb on Recycling Days

Two-in-Three Report that they Place Cart at Curb EVERY Collection Day

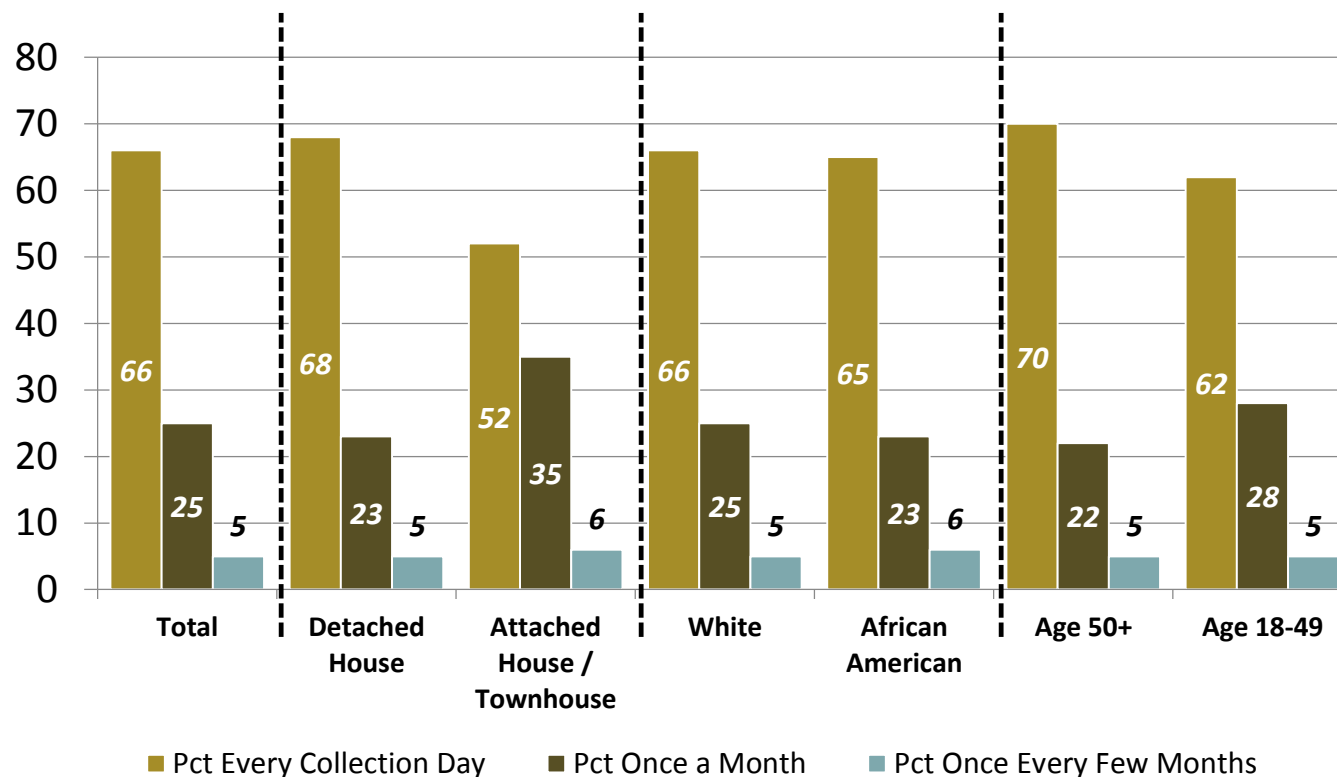
96%

of residents report that they place their recycling cart or bin at the curb on recycling collection days.





Residents Who Live in Detached Houses and Older Residents Most Likely to Recycle Every Collection Day

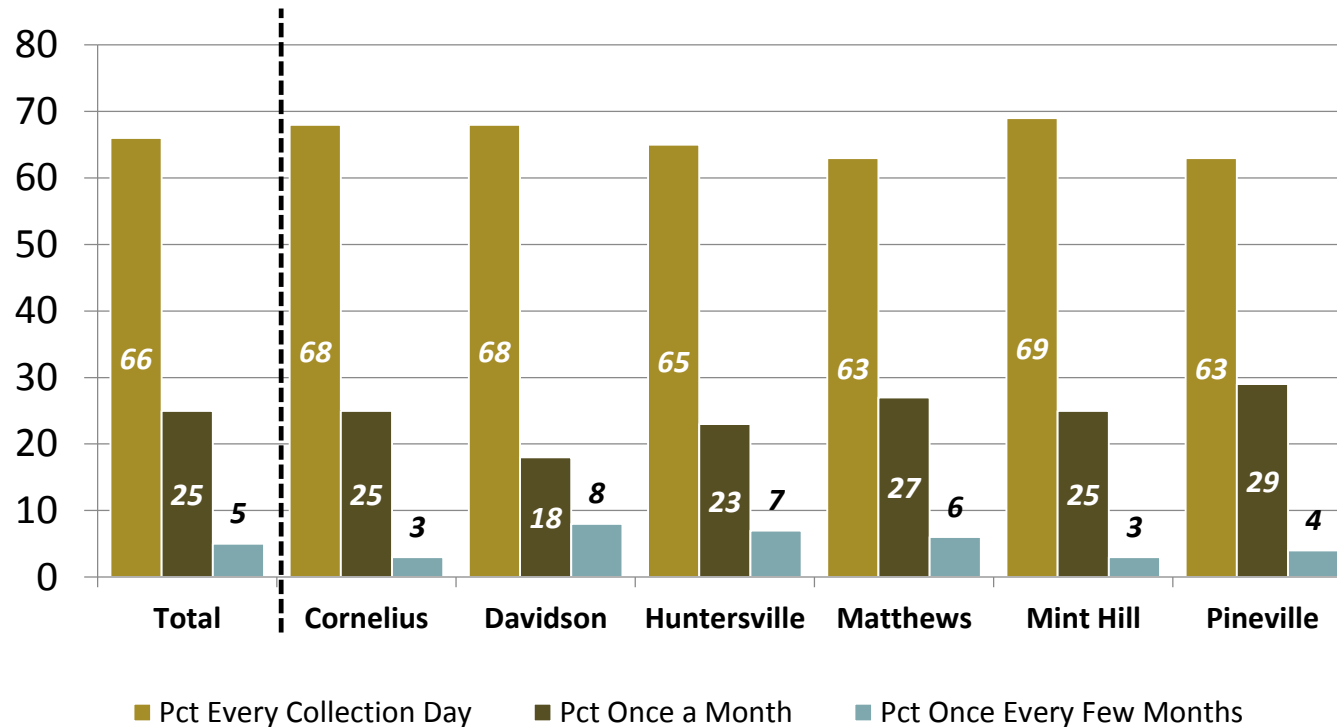


(IF YES) And how often do you place your recycling cart or bin at the curb – every collection day, once a month, or once every few months?



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

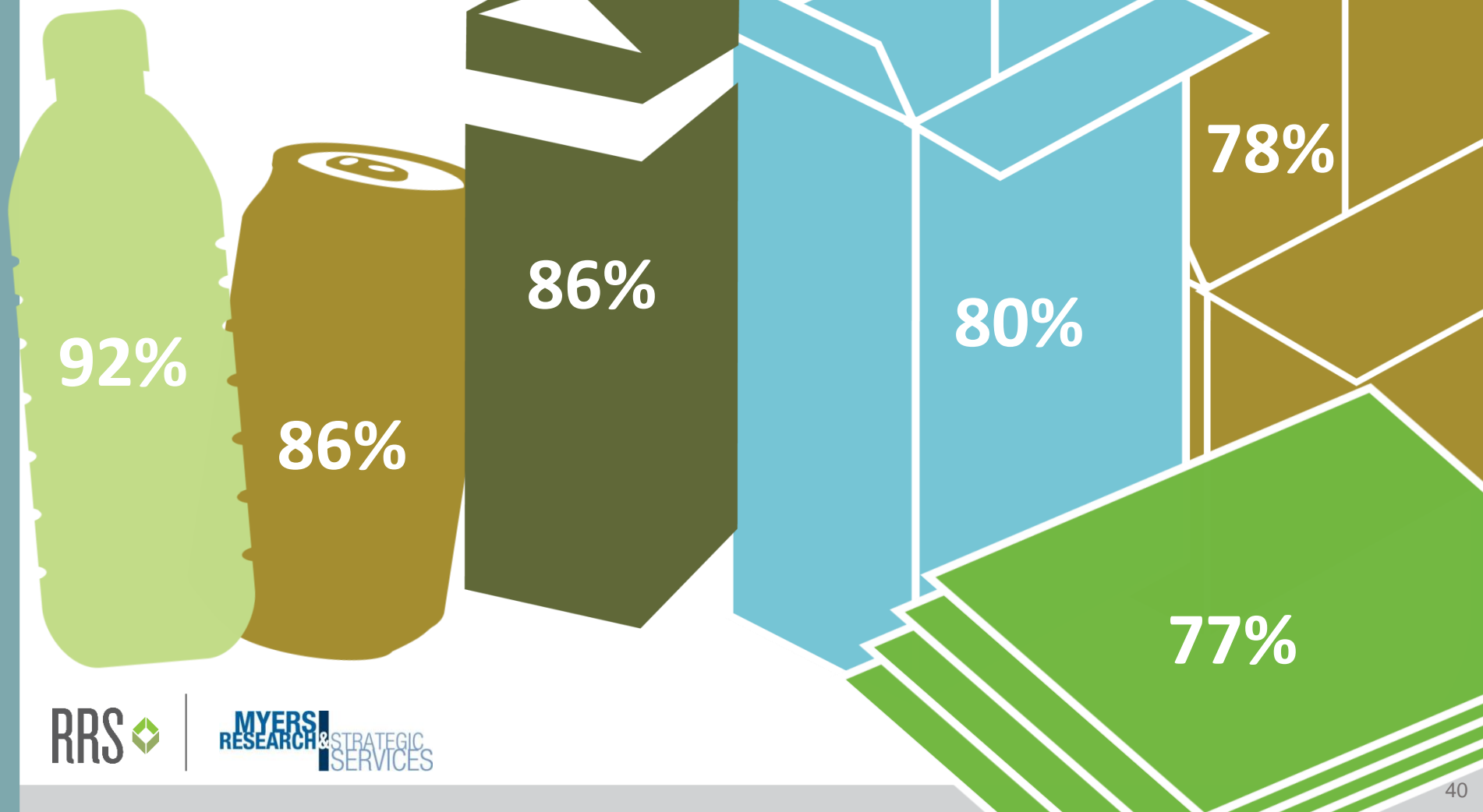
Residents Who Live in Cornelius, Huntersville, and Mint Hill Most Likely to Recycle Every Collection Day



(IF YES) And how often do you place your recycling cart or bin at the curb – every collection day, once a month, or once every few months?

Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

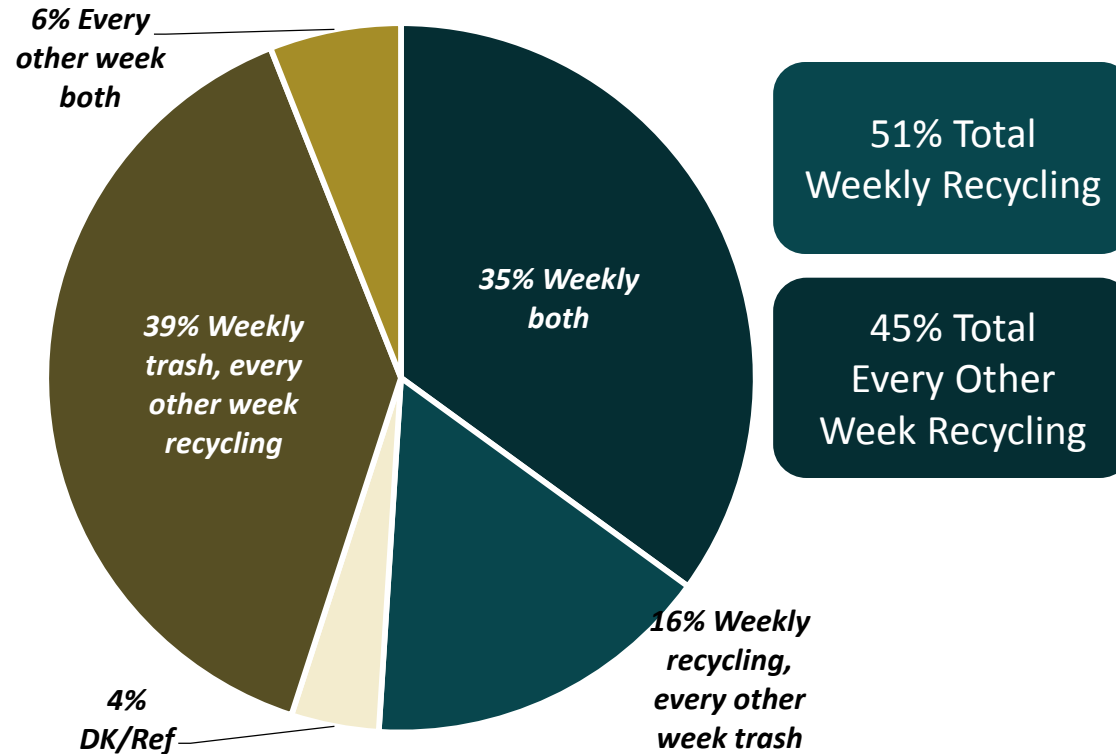
Plastic Bottles Are Most Recycled Items, Followed by Cans and Cartons





Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Residents Split on Desired Frequency of Recycling Collection, But 3-in-4 Prefer Weekly Trash Collection

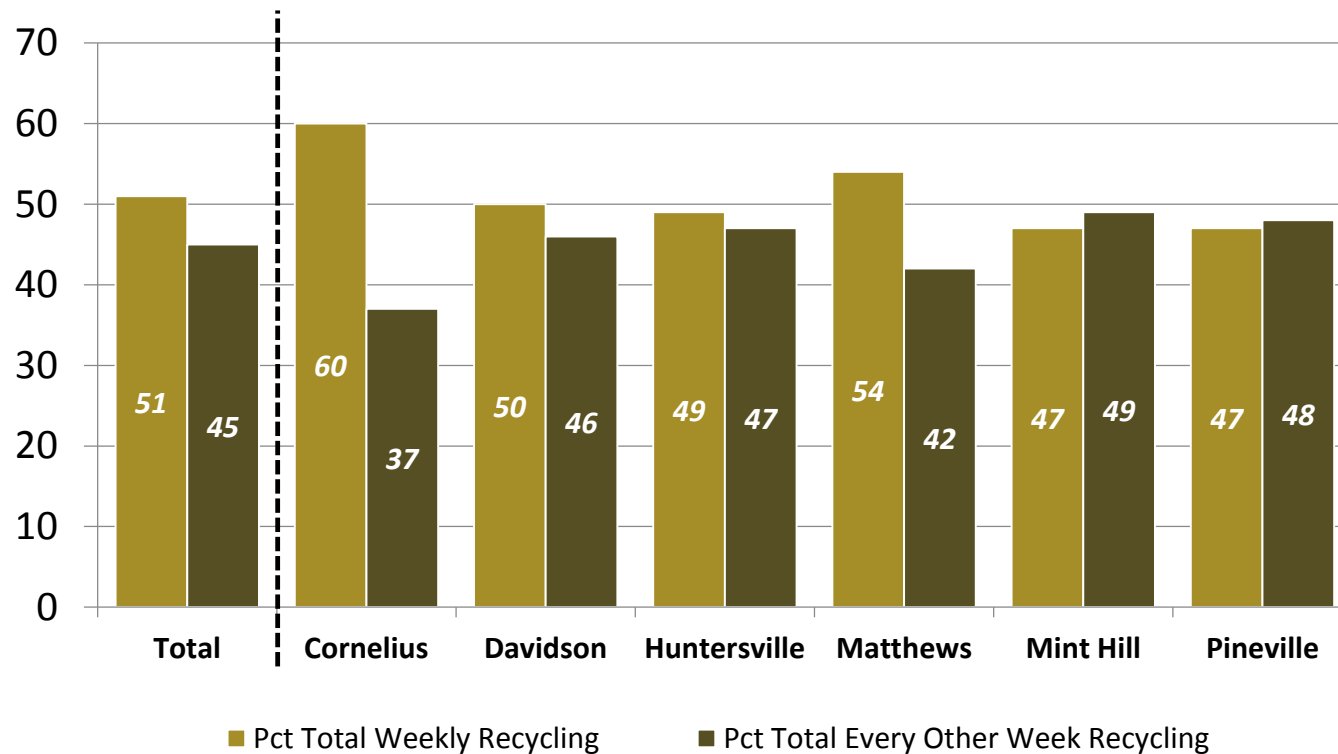


If you had the choice, which of the following scheduling options would you prefer for recycling and trash collection?



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Residents of Cornelius and Matthews More Likely to Prefer Weekly Recycling Collection

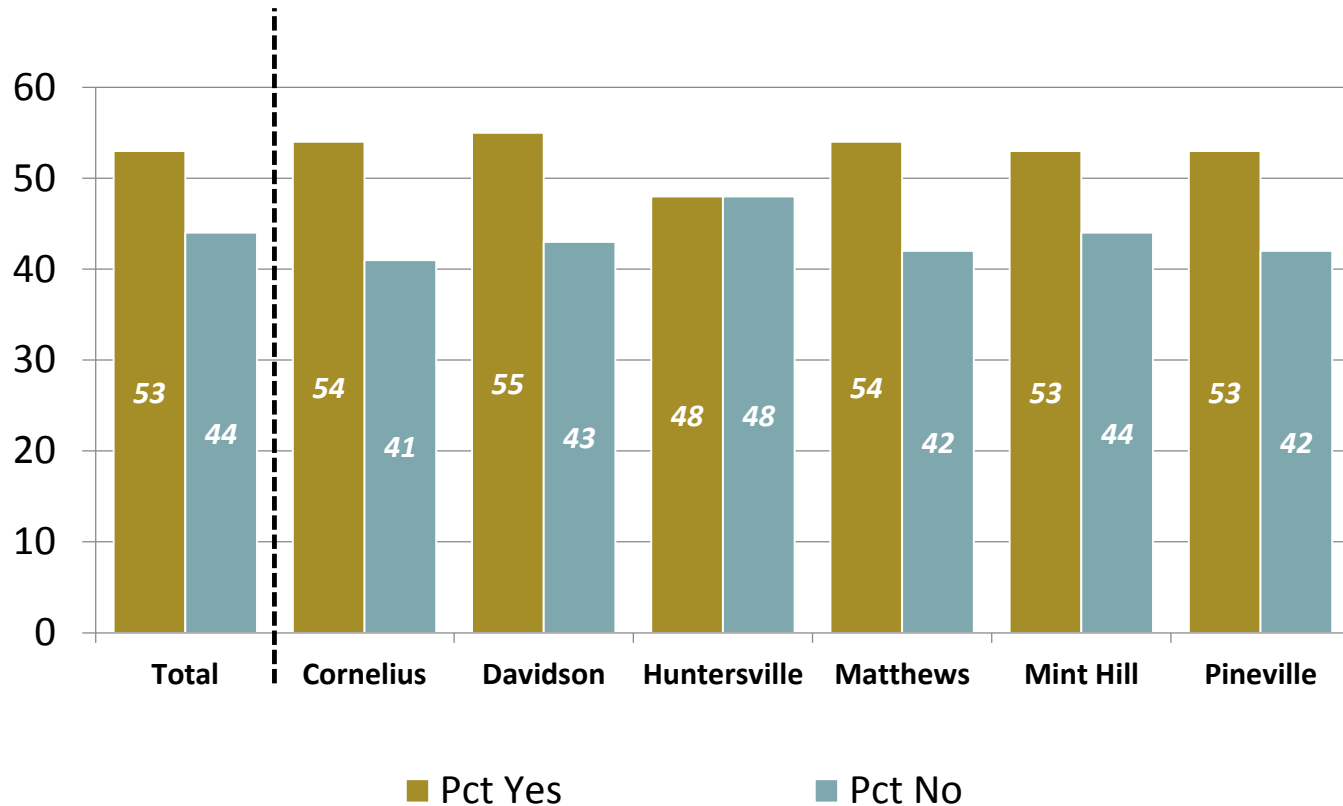


If you had the choice, which of the following scheduling options would you prefer for recycling and trash collection?



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

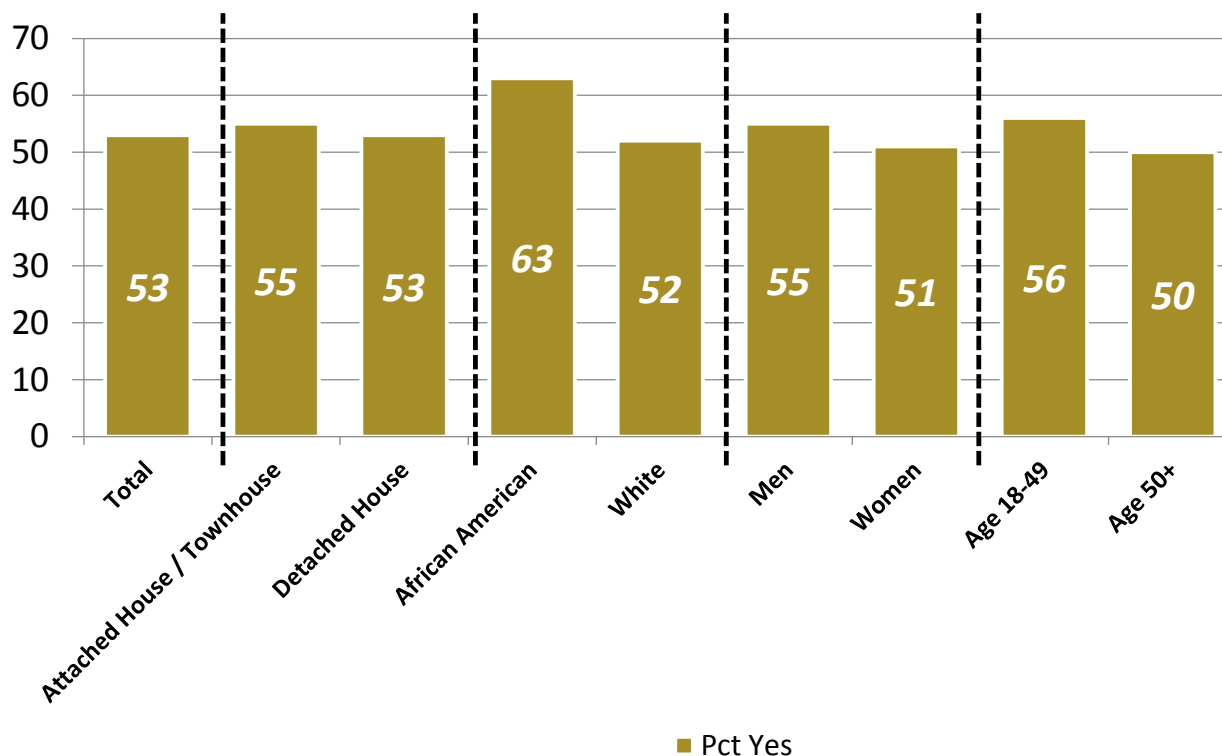
Half of Residents Report Waiting Until Recycling Cart is Full or Close to Full Before Setting it Out



(ASKED OF THOSE WHO SET OUT CARTS) Yes or no, do you wait until your recycling cart is full or close to full before setting it out on the curb?



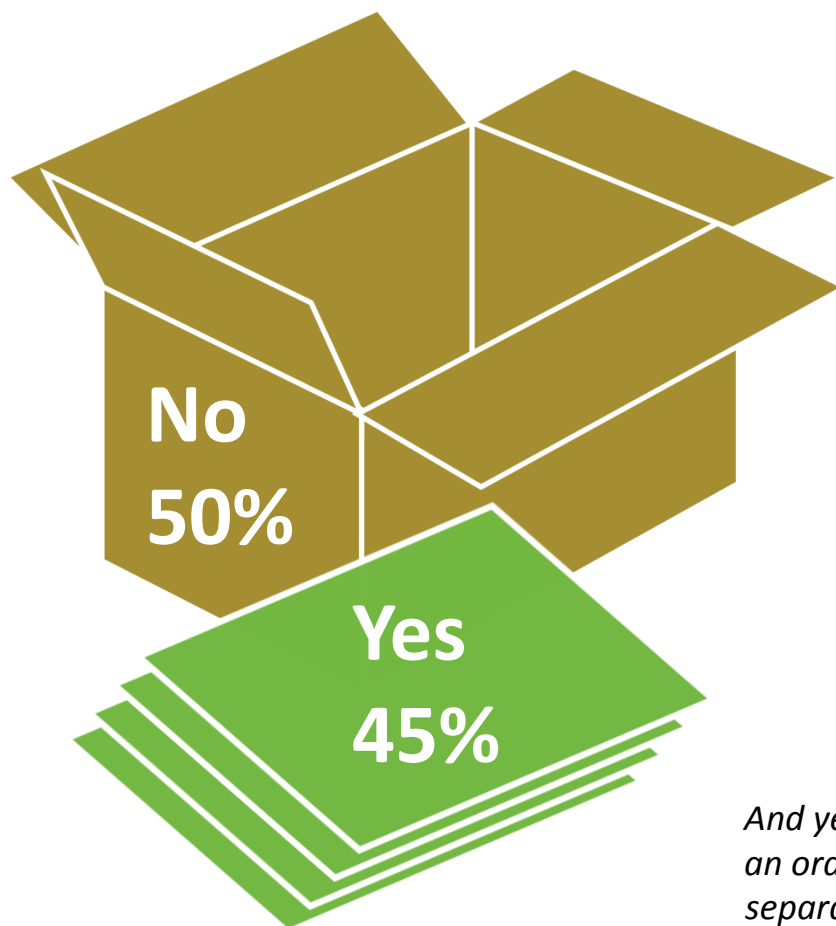
African Americans, Men and Younger Residents Most Likely to Wait For Full Cart



(ASKED OF THOSE WHO SET OUT CARTS) Yes or no, do you wait until your recycling cart is full or close to full before setting it out on the curb?



Fewer Than Half of Residents Familiar with Business Recycling Ordinance

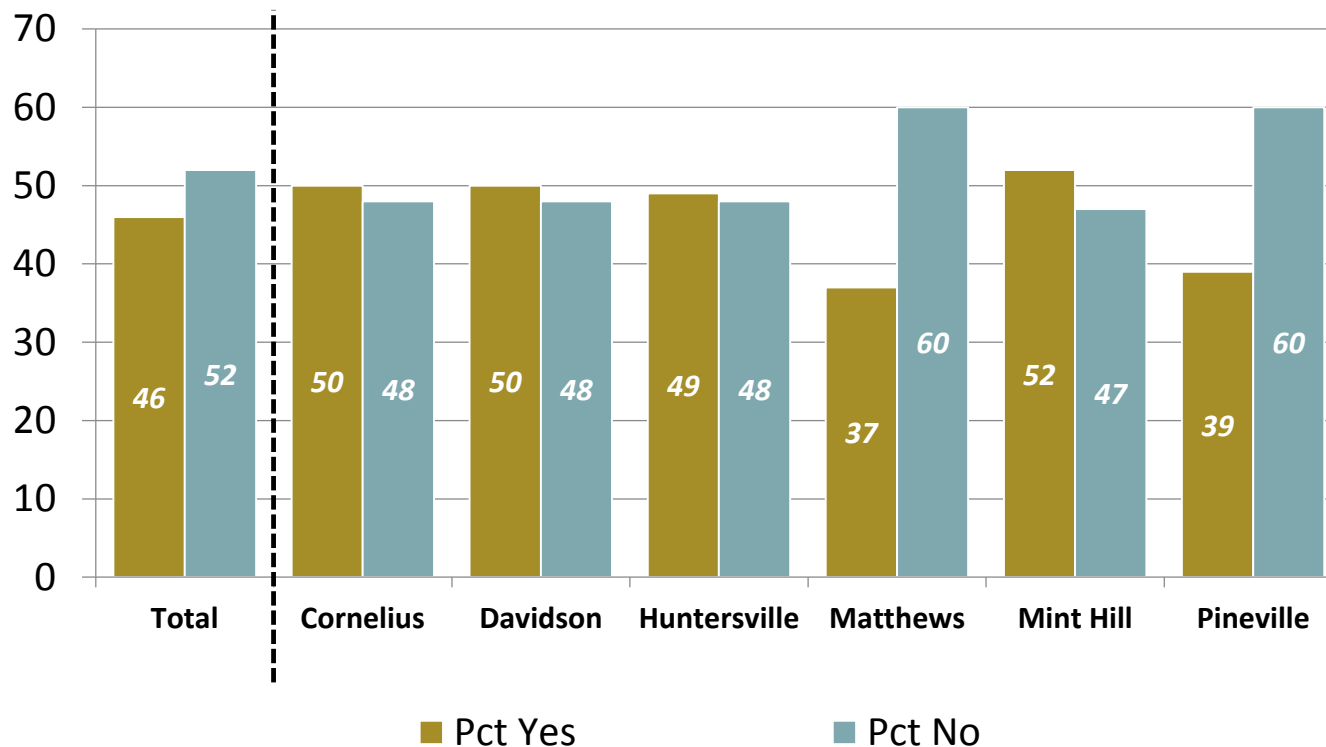


	Pct Yes	Pct No
Cornelius	46	46
Davidson	43	51
Huntersville	47	49
Matthews	43	51
Mint Hill	46	50
Pineville	43	51

And yes or no, did you know that Mecklenburg County has an ordinance making it mandatory for many businesses to separate office paper and cardboard from the rest of their trash for the purpose of recycling?



Residents of Matthews and Pineville Least Likely to Report Recycling Materials at the County Drop-Off Centers



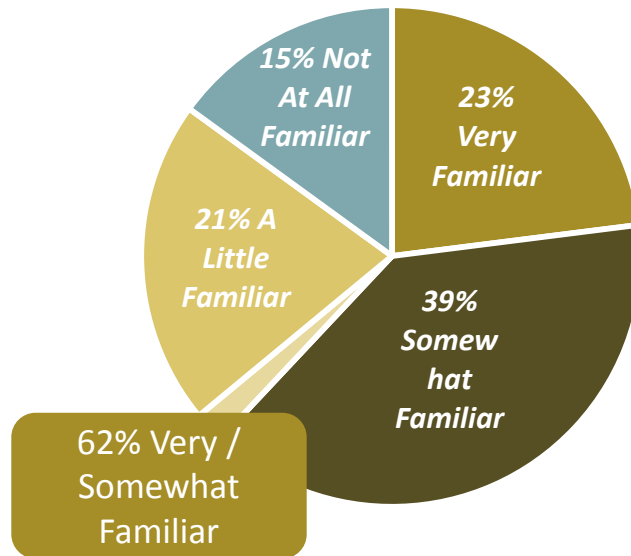
*Yes or no, do you recycle materials at the Mecklenburg County
Recycling Drop-Off Centers?*



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Most Are at Least Somewhat Familiar with Acceptable Recycling Drop-Off Center Materials, But Just 1-in-4 Are Very Familiar

Matthews and Pineville Residents Least Familiar



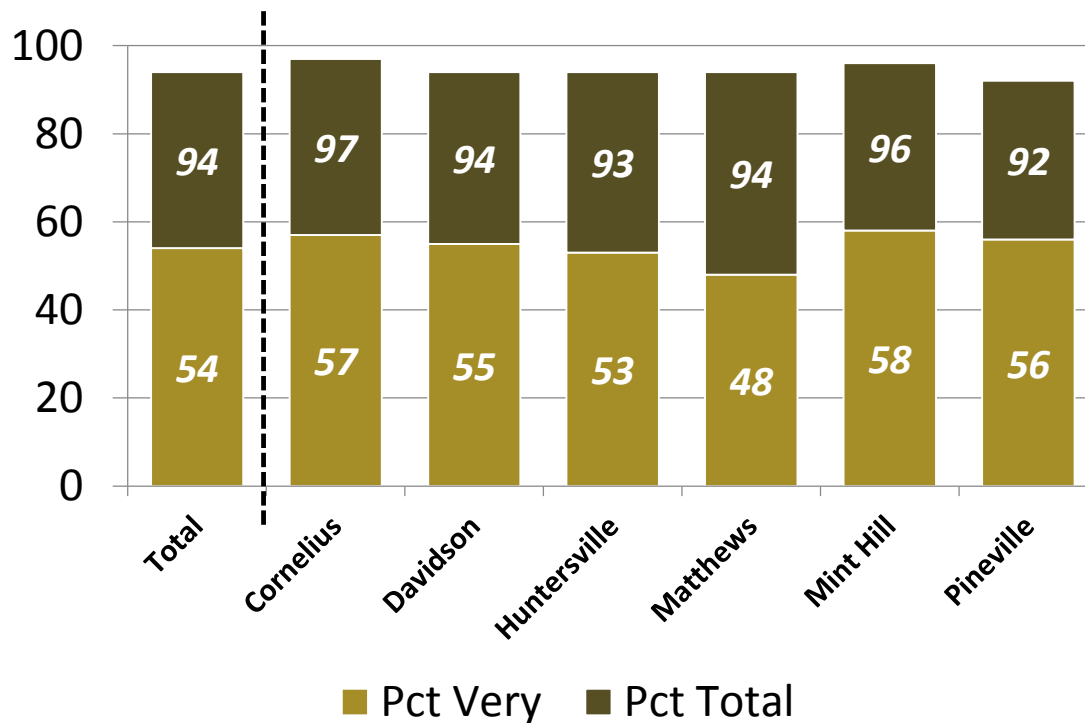
	Pct Very	Pct Very/ Smwt
Cornelius	27	65
Davidson	27	66
Huntersville	23	66
Matthews	15	58
Mint Hill	27	64
Pineville	21	57

Would you say you are very familiar, somewhat familiar, a little familiar, or not at all familiar with the materials that can be recycled at the Mecklenburg County Recycling Drop-Off Centers?



Almost All Residents Satisfied with Curbside Recycling Services

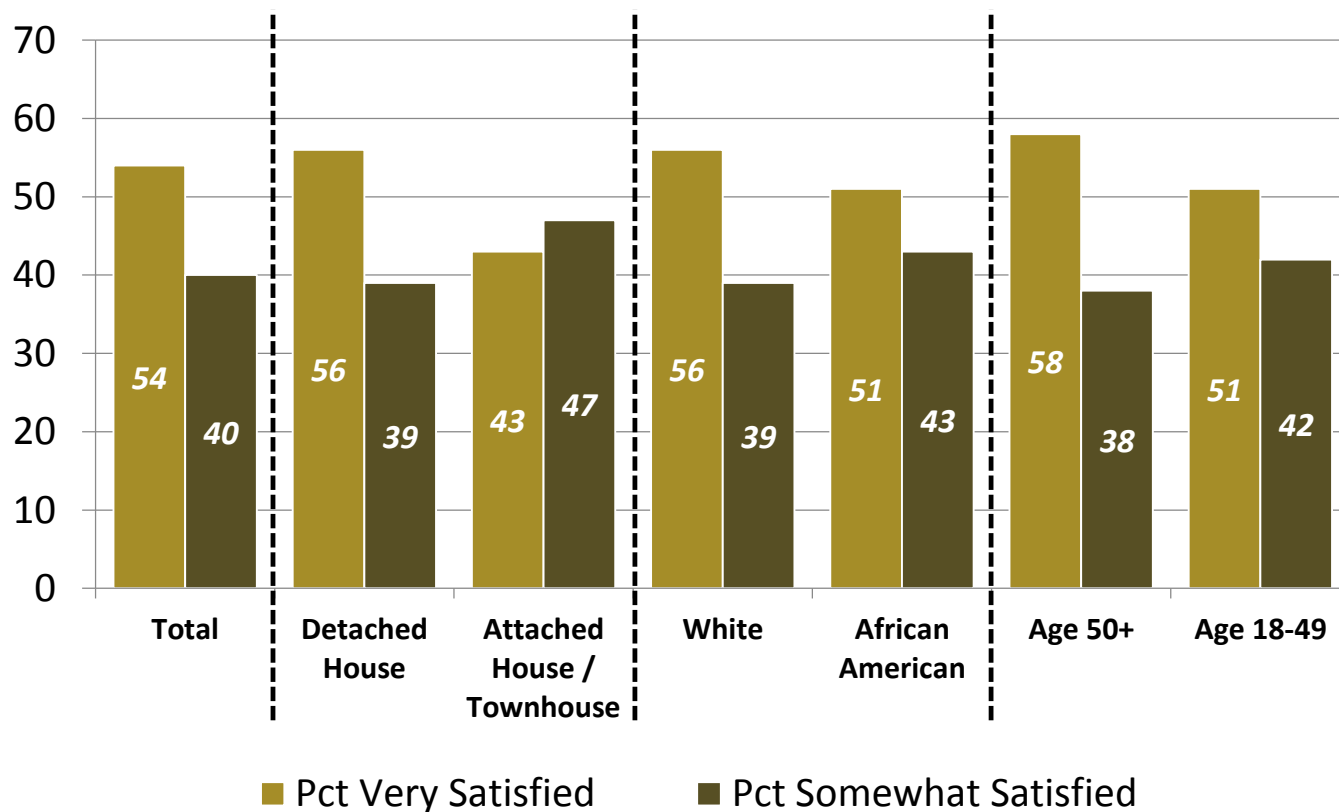
Majority Are Very Satisfied in All Municipalities Other than Matthews



Would you say you are satisfied or dissatisfied with your current curbside recycling service?



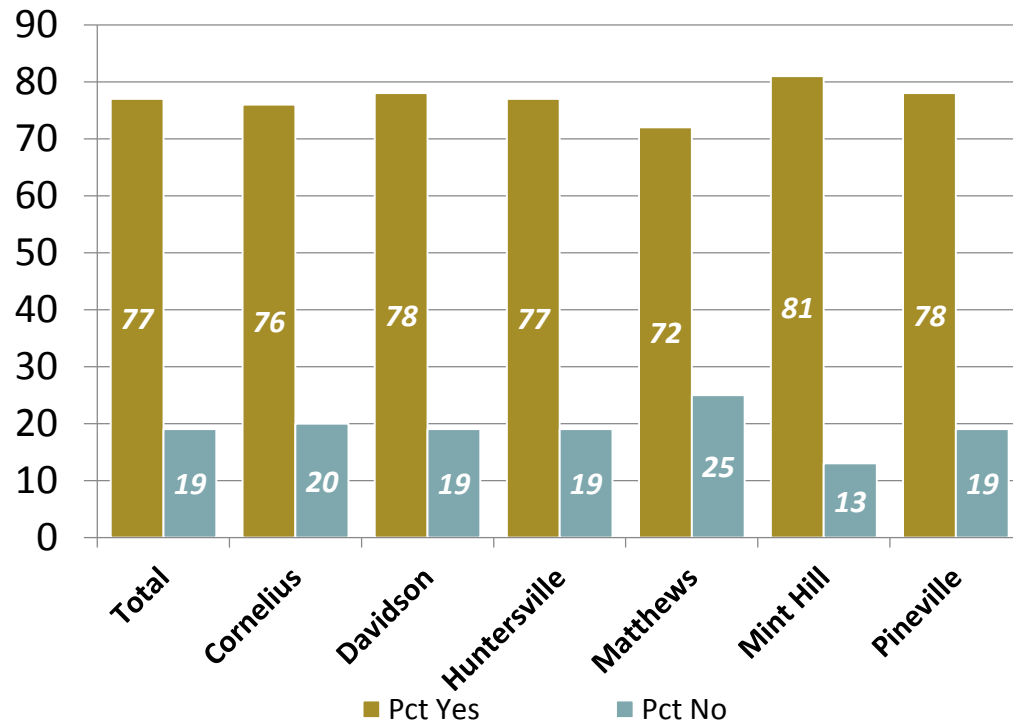
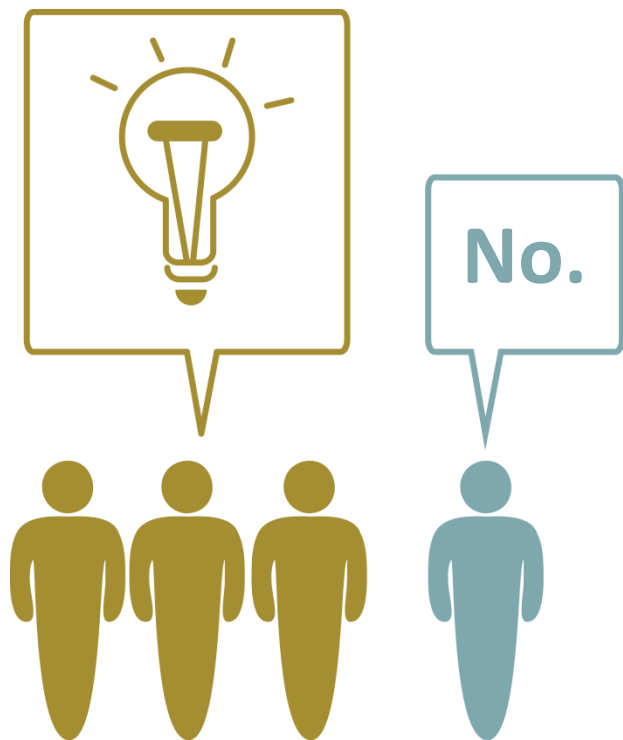
Residents Who Live in Detached Homes, White Residents and Older Residents Most Likely to Be Very Satisfied



Would you say you are satisfied or dissatisfied with your current curbside recycling service?



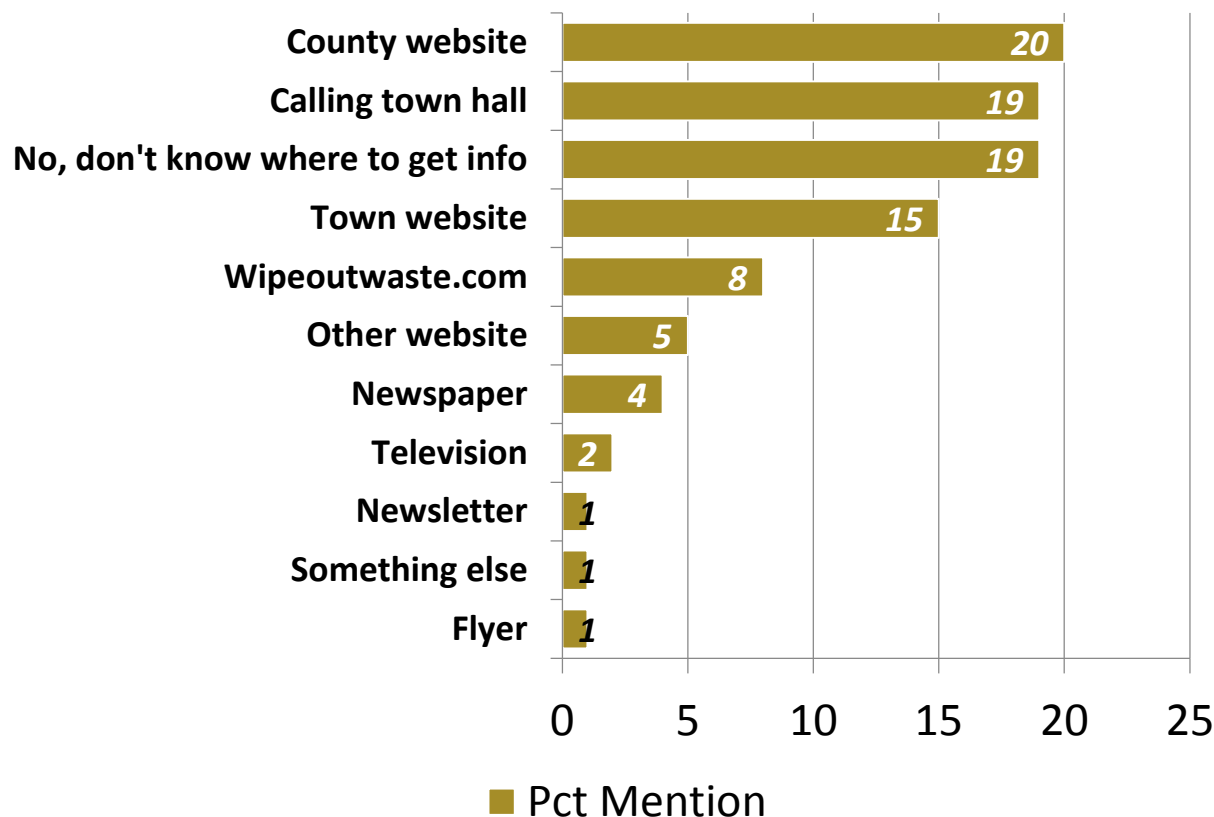
Three-in-Four Residents Say they Would Know Where to Go to Get Information About Recycling and Solid Waste Collection



If you needed to get information about recycling and solid waste collection in your area, would you know where to go to get it?



Most Would Visit the County Website or Call Town Hall to Get Information About Recycling and Solid Waste Collection



(ASKED OF THOSE WHO SAY THEY KNOW WHERE TO GET INFO)
Where would you go for that information?



Knowledge of Where to Get Information by Town

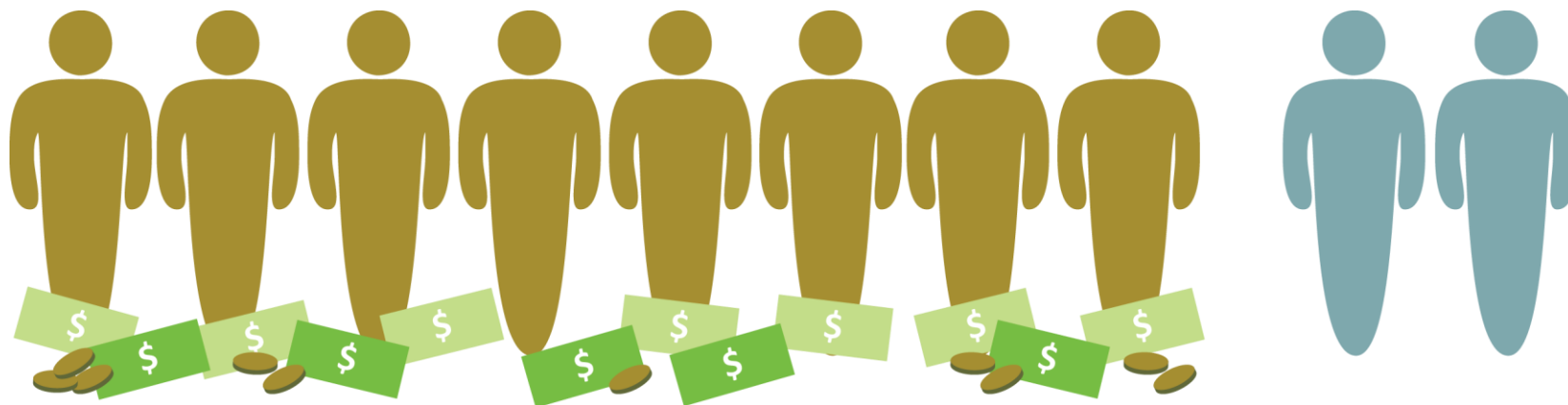
	Cornelius	Davidson	Huntersville	Matthews	Mint Hill	Pineville
County website	23	20	21	18	20	16
Calling Town Hall	20	16	20	15	22	24
Don't know where to get info	20	19	19	25	13	19
Town website	16	16	15	14	11	15
Wipeoutwaste.com	4	8	11	10	11	7
Other website	4	7	2	5	7	6
Newspaper	3	4	3	5	6	3
Television	1	4	3	2	2	2
Newsletter	3	2	0	-	1	1
Something else	1	1	0	1	1	3
Flyer	1	0	1	0	1	2

(ASKED OF THOSE WHO SAY THEY KNOW WHERE TO GET INFO)
Where would you go for that information?

8-in-10 Mecklenburg Residents Favor Customer Incentive Programs



Customer incentive programs that provide rewards for recycling

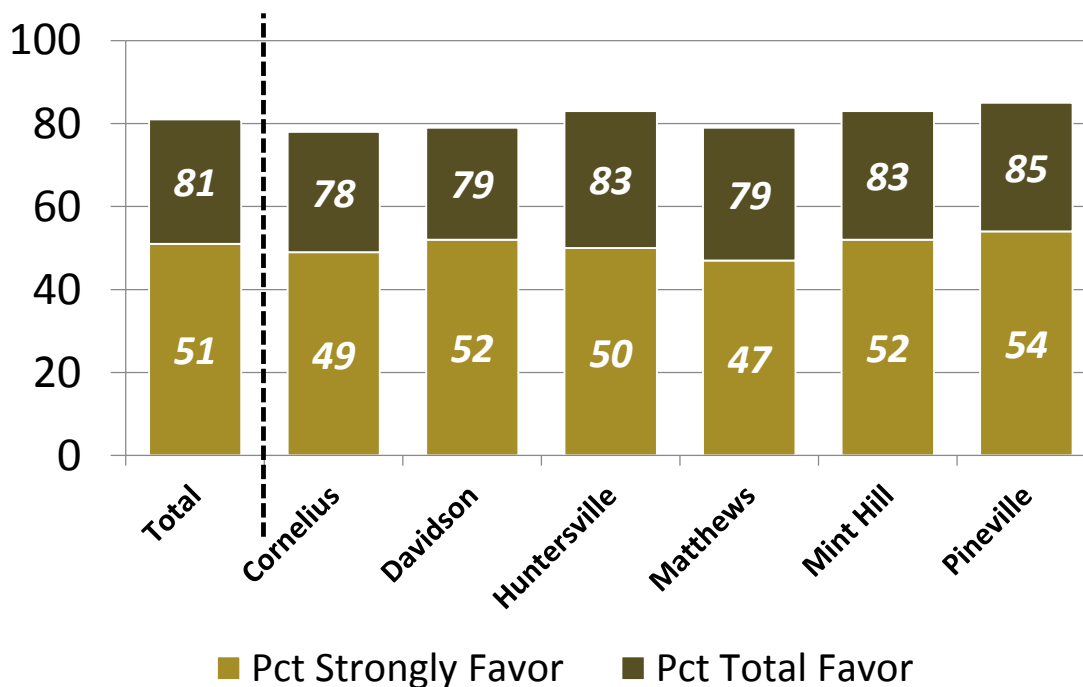


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.

Support for Customer Incentive Programs Broad Across the County



Customer incentive programs that provide rewards for recycling



Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Requirement to Participate in Recycling Program Favored by Nearly 2-in-3 Mecklenburg County Residents

A local or state requirement to participate in your curbside recycling program

63%
Favor



28%
Oppose



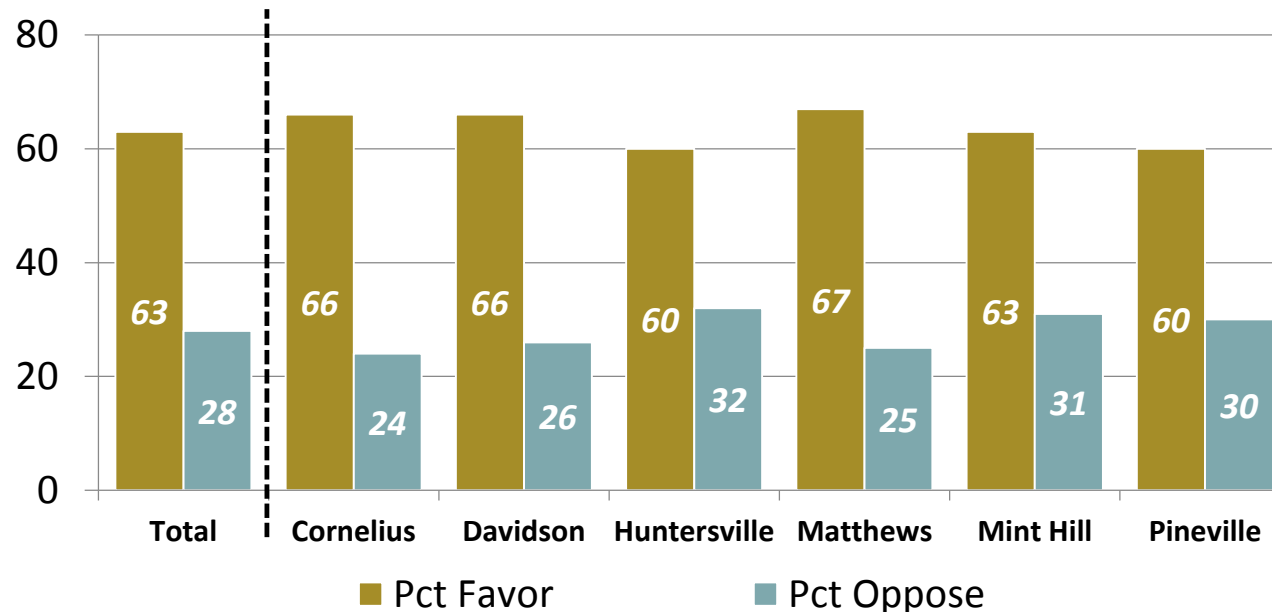
Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Support for Participation Requirement Highest in Cornelius, Davidson and Matthews, Though Generally Stable

A local or state requirement to participate in your curbside recycling program

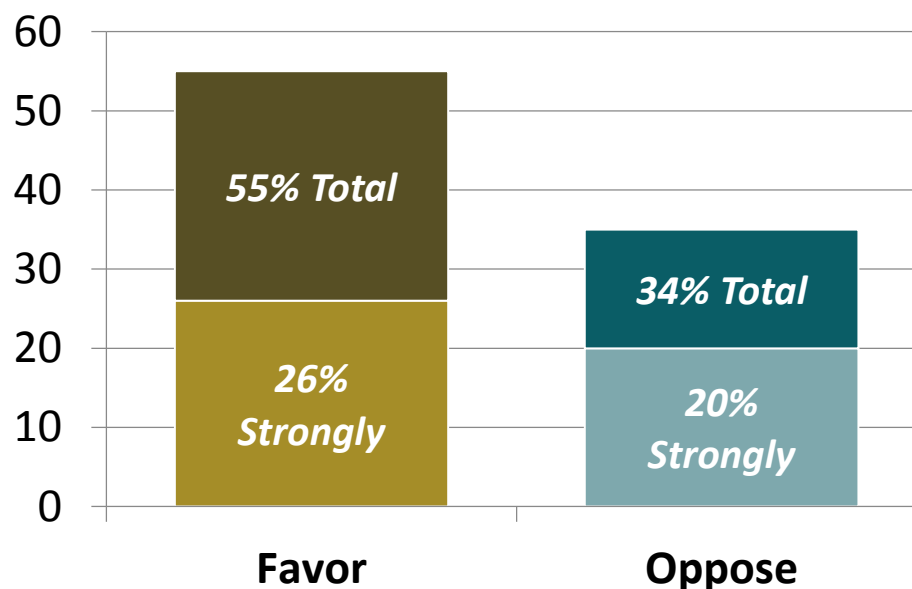


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Narrow Majority Favor No Cost Recycling and Pay for Garbage Removal

No cost or payment for recycling, but you would pay for garbage removal based on the amount of garbage you produce

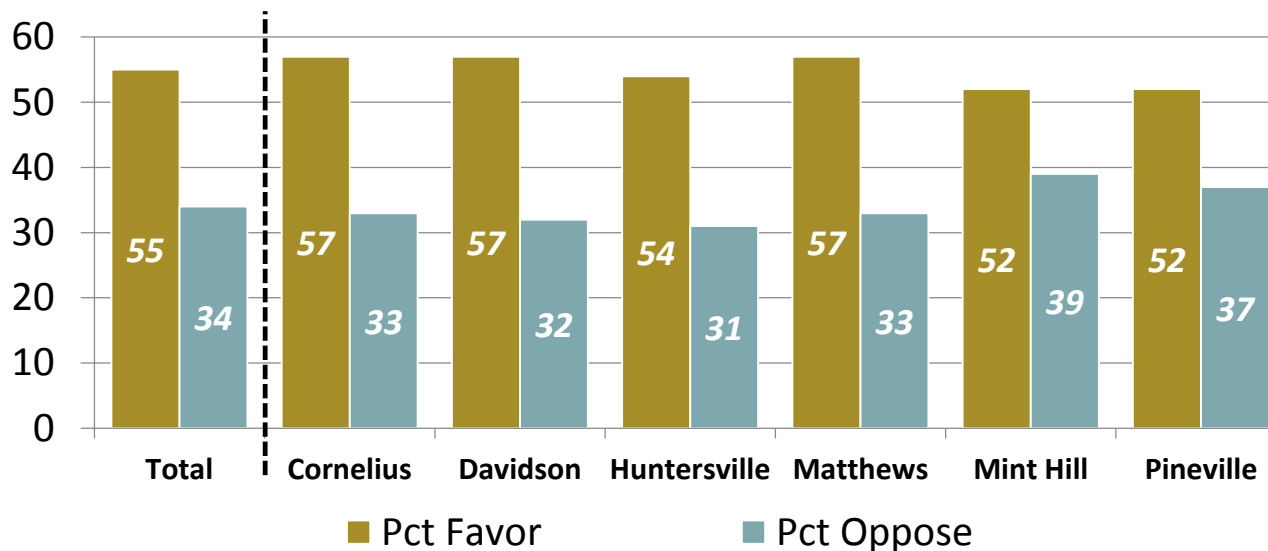


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Support for No Cost Recycling Also Relatively Stable Across the County

No cost or payment for recycling, but you would pay for garbage removal based on the amount of garbage you produce

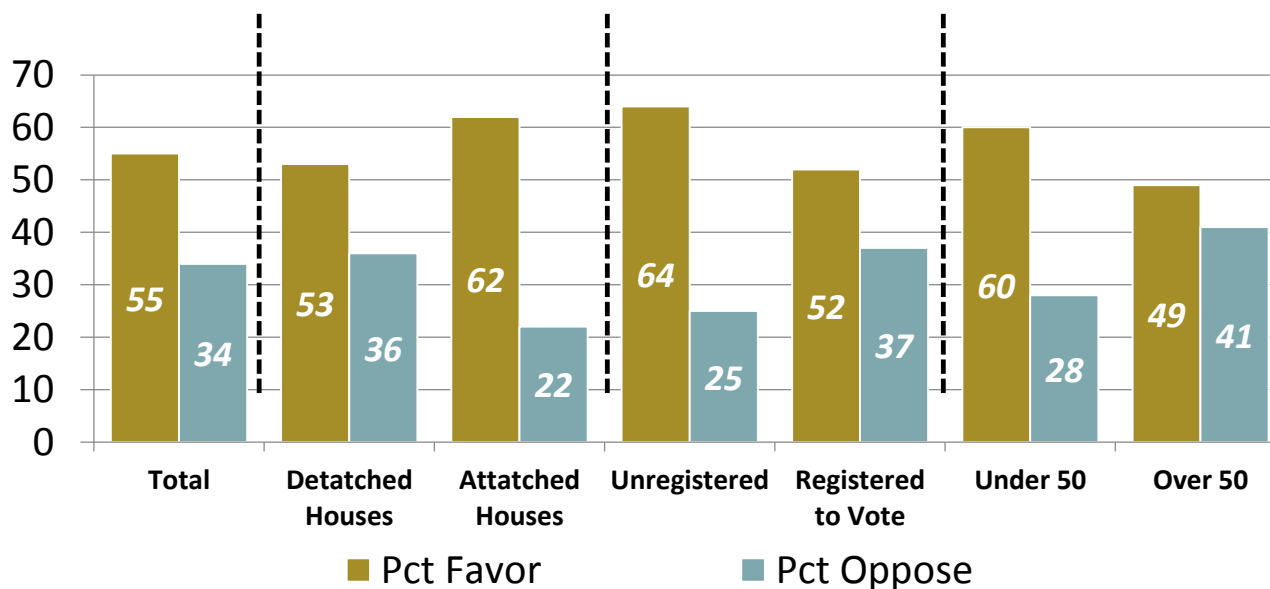


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Residents In Attached Houses, Unregistered Residents and Younger Residents More Likely to Support No Cost Recycling/ Pay for Garbage Removal

No cost or payment for recycling, but you would pay for garbage removal based on the amount of garbage you produce

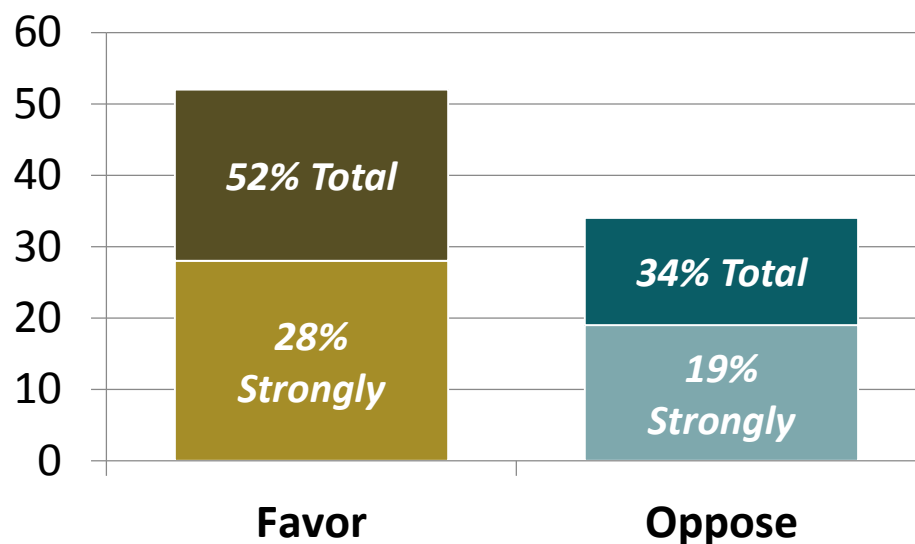


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.

Bare Majority Favor Ban on Landfill-Banned Materials from Curbside Trash Carts



Banning recyclable materials that are currently banned from landfills – such as aluminum cans, plastic bottles, televisions and computer equipment – from being disposed of in curbside trash carts

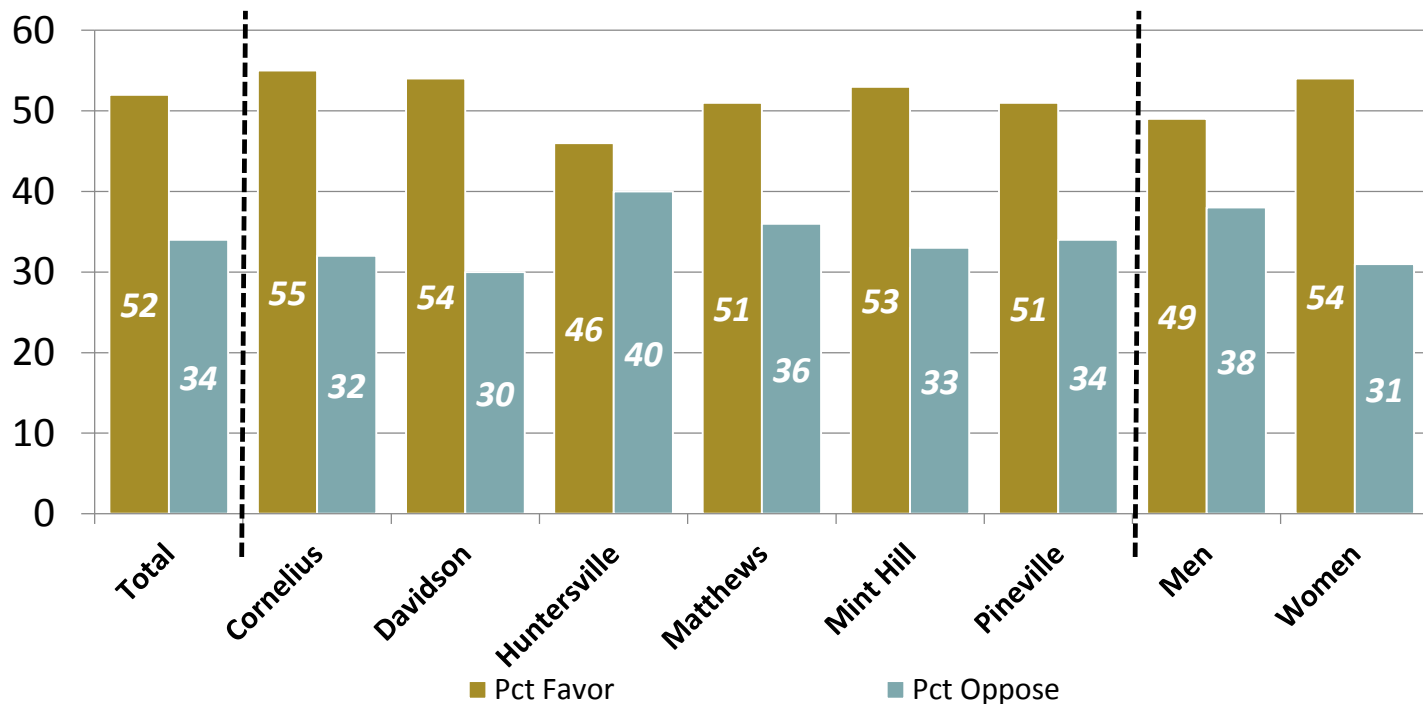




Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Men and Residents in Huntersville More Likely To Oppose Banning Recyclables From Landfills

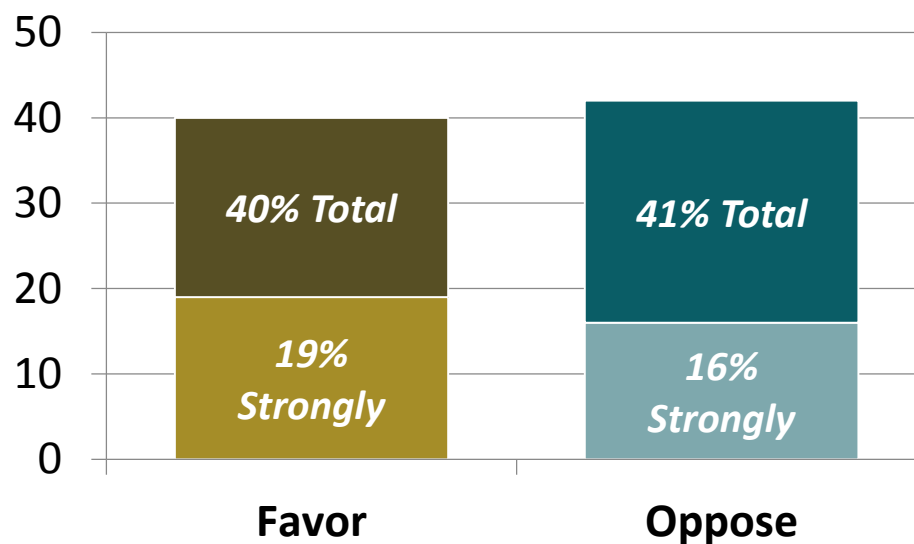
Banning recyclable materials that are currently banned from landfills – such as aluminum cans, plastic bottles, televisions and computer equipment – from being disposed of in curbside trash carts





Despite Majority Support for Proposals Themselves, Just Four-in-Ten Favor Enforcement

Enforcement of a requirement to participate in a curbside recycling program or a ban on recyclable materials being disposed of in curbside trash carts – from notification of infractions and increased education about infractions, to fines resulting from infractions

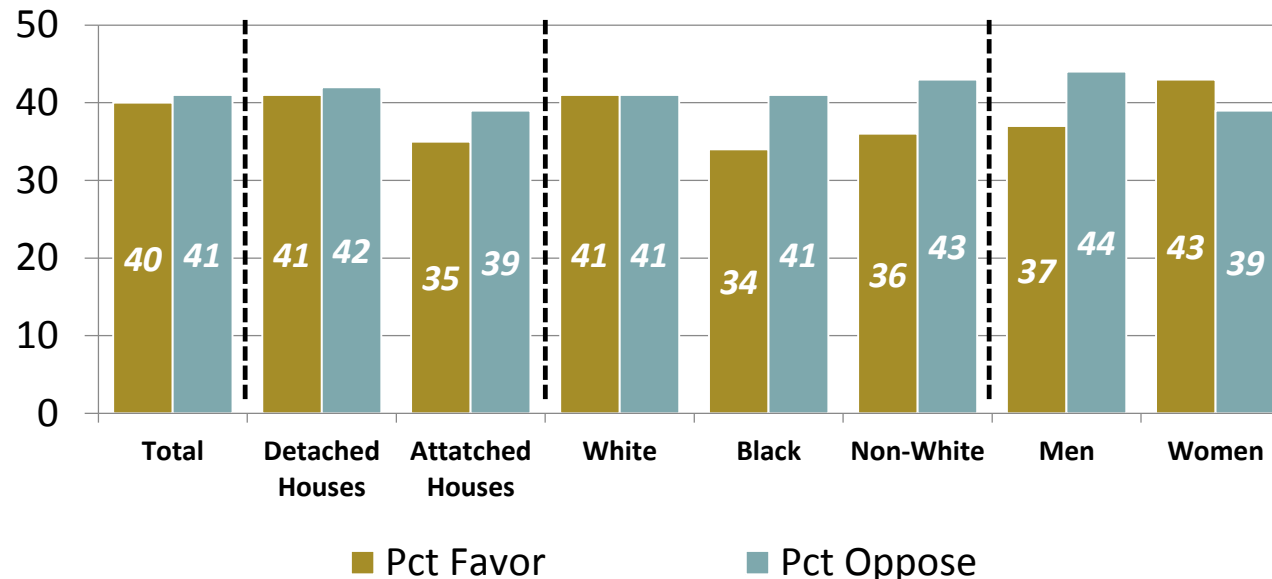




Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Residents In Detached Houses, Whites Residents and Women Slightly More Likely to Favor Enforcement

Enforcement of a requirement to participate in a curbside recycling program or a ban on recyclable materials being disposed of in curbside trash carts – from notification of infractions and increased education about infractions, to fines resulting from infractions

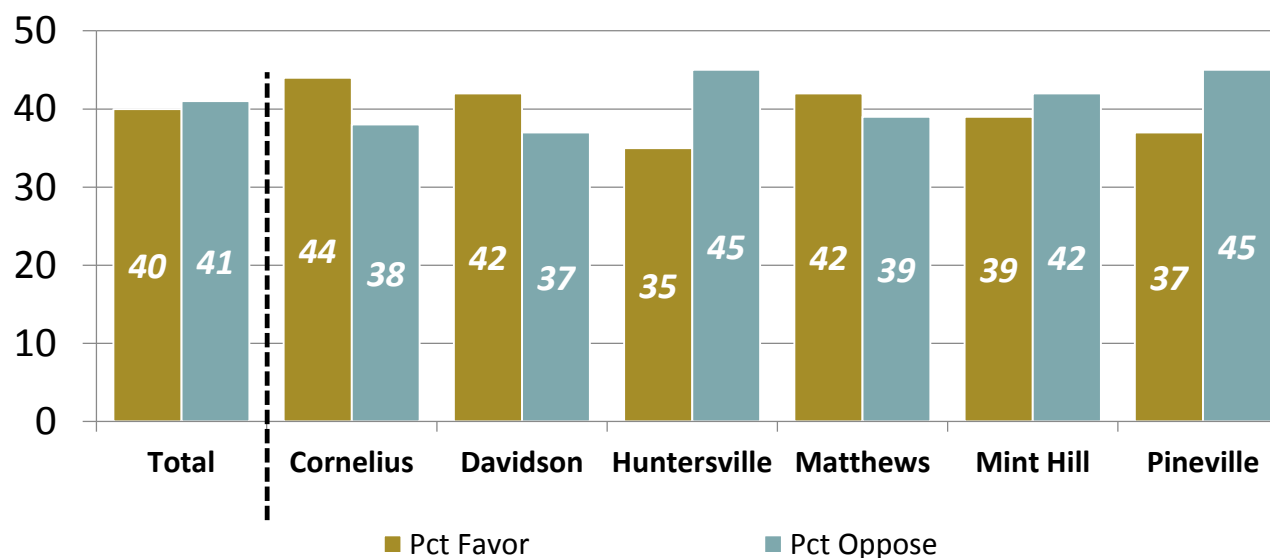


Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Cornelius Residents More Likely To Support Enforcement; Huntersville and Pineville Resident Least Likely

Enforcement of a requirement to participate in a curbside recycling program or a ban on recyclable materials being disposed of in curbside trash carts – from notification of infractions and increased education about infractions, to fines resulting from infractions



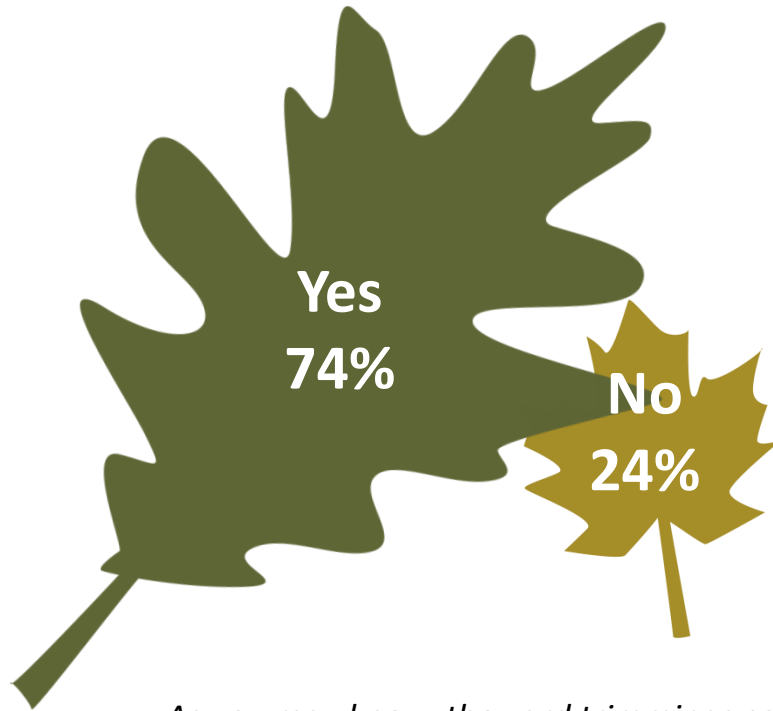
Now I am going to read you a list of potential recycling programs and regulations that may be instituted in your part of Mecklenburg County. Please tell me whether you favor or oppose each program or regulation.



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Three-Quarters of Residents Make Use of Yard Trimmings Collection Program

Cornelius, Huntersville and Mint Hill Residents Most Likely to Report Making Use of Program



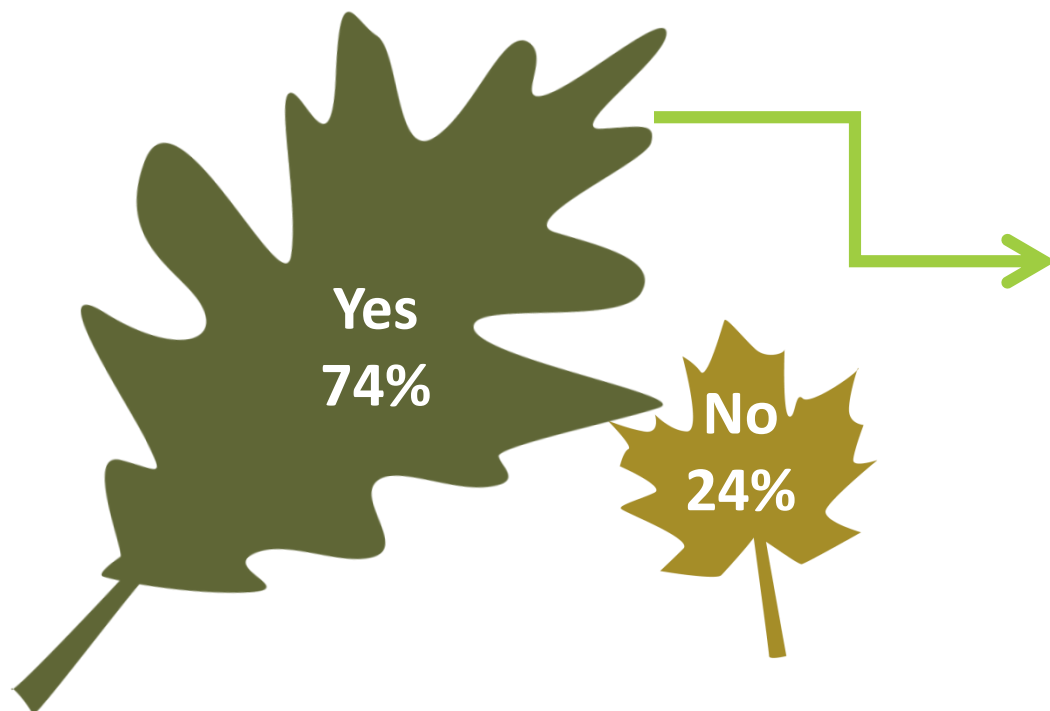
	Pct Yes	Pct No
Cornelius	78	22
Davidson	69	28
Huntersville	71	26
Matthews	78	20
Mint Hill	77	22
Pineville	73	25

As you may know, the yard trimmings collection program allows residents to set out yard waste for pick-up at their curbside -- things like bagged grass clippings, leaves and scraps from gardening. Yes or no, do you make use of the yard trimmings collection program?



Three-Quarters of Residents Make Use of Yard Trimmings Collection Program

Cornelius, Huntersville and Mint Hill Residents Most Likely to Report Making Use of Program



20% weekly

11% more than once a month

13% once a month

15% once every couple of months

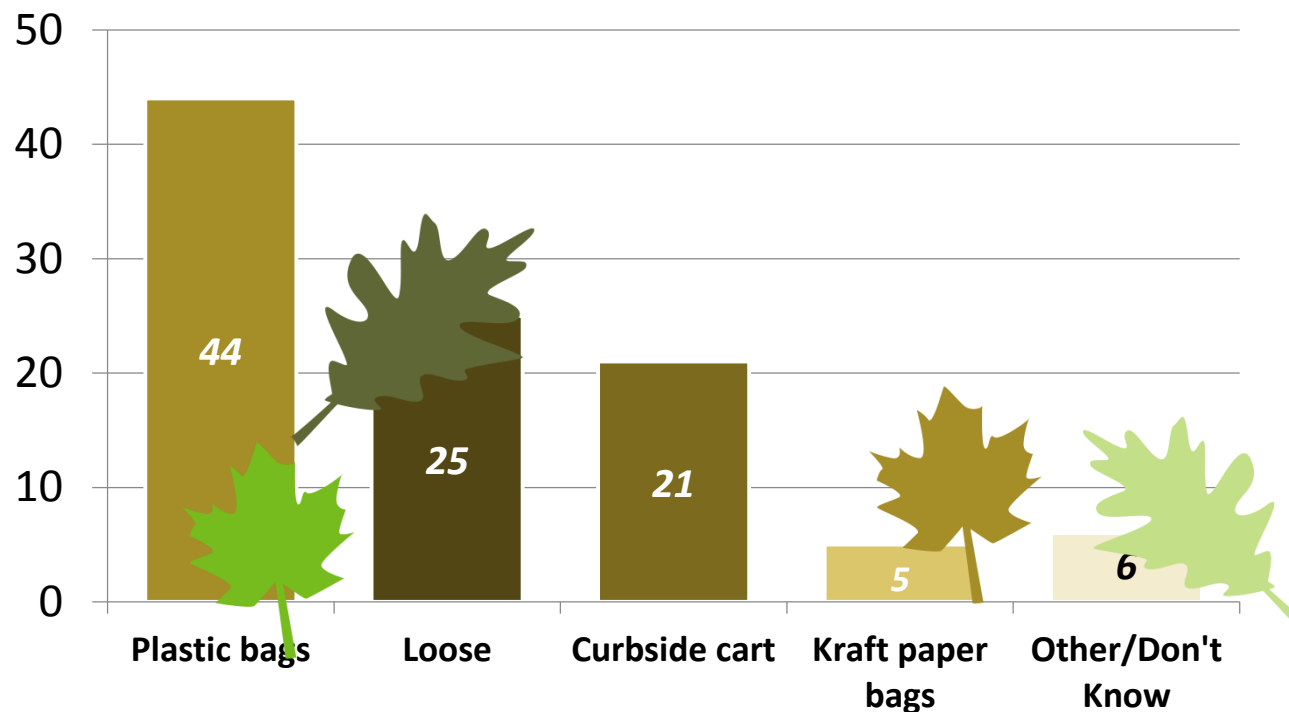
13% couple times a year

3% once a year

As you may know, the yard trimmings collection program allows residents to set out yard waste for pick-up at their curbside -- things like bagged grass clippings, leaves and scraps from gardening. Yes or no, do you make use of the yard trimmings collection program?




For Those Who Make Use of Yard Trimmings Collection Program, Plastic Bags Emerge as Preferred Collection Method



(ASKED OF THOSE WHO MAKE USE OF PROGRAM)
What would be your preferred collection method for yard trimmings?



Curbside Cart More Popular Yard Trimming Collection Method in Davidson and Huntersville than Other Towns



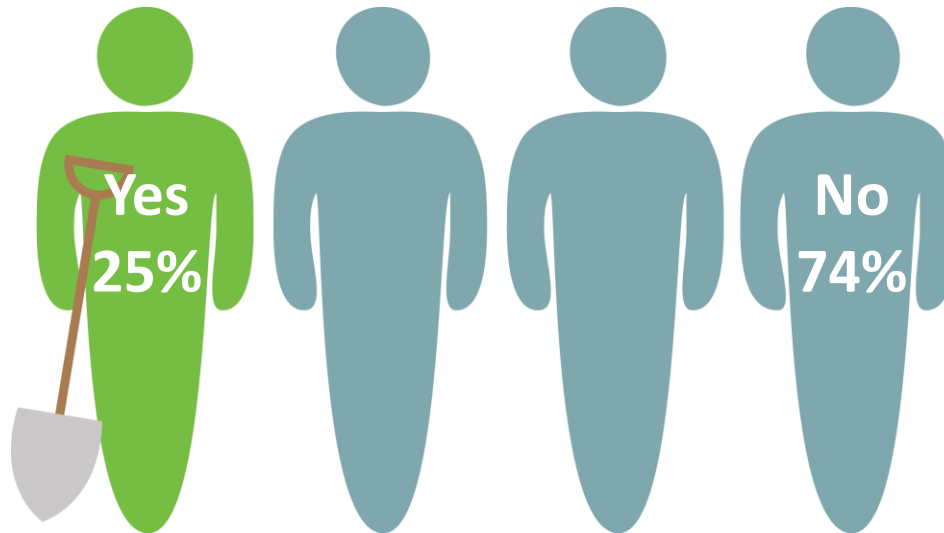
	Cornelius	Davidson	Huntersville	Matthews	Mint Hill	Pineville
Plastic bags	49	35	40	48	40	50
Loose	26	25	20	26	26	24
Curbside cart	18	27	30	15	19	19
Kraft paper bags	2	7	4	5	7	4

(ASKED OF THOSE WHO MAKE USE OF PROGRAM)
What would be your preferred collection method for yard trimmings?



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Roughly 1-in-4 Mecklenburg Residents Report Using Compost at Their Home

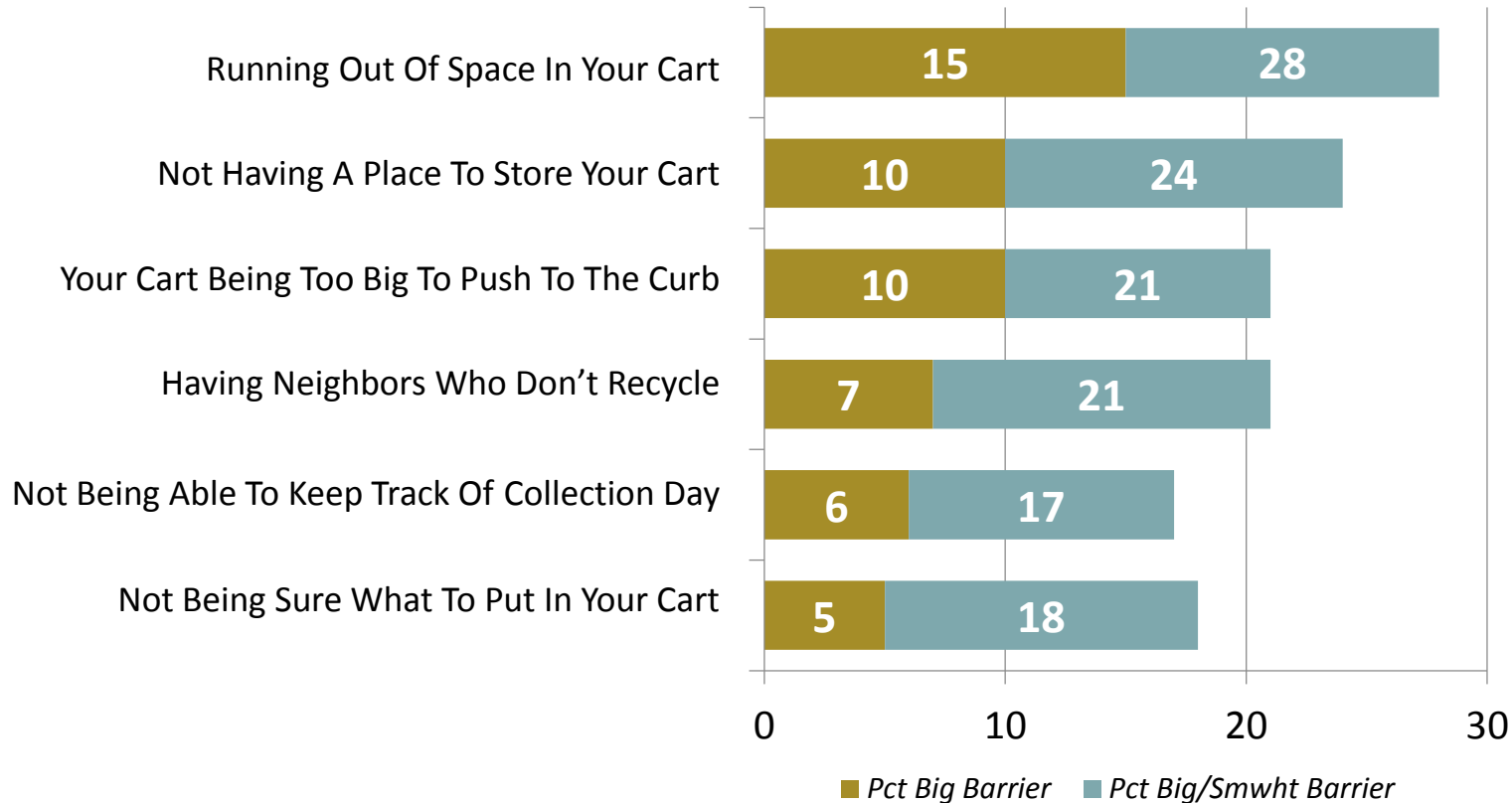


	Pct Yes	Pct No
Cornelius	29	71
Davidson	27	71
Huntersville	22	77
Matthews	23	76
Mint Hill	26	72
Pineville	21	77



Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Nearly 3-in-10 Say Running Out Of Space Is A Barrier To Being Able To Conveniently Recycle



Now I am going to read you some things that some people say are barriers to being able to conveniently recycle. Please tell me whether for you personally, each is a big barrier, somewhat of a barrier, a small barrier, or not a barrier at all to being able to conveniently recycle.

Recycling Barriers By Town



	Cornelius	Davidson	Huntersville	Matthews	Mint Hill	Pineville
Running Out Of Space In Your Cart	19/35	17/29	14/28	13/24	15/24	11/24
Not Having Space to Store Your Cart	9/25	10/23	9/24	9/25	10/20	11/26
Your Cart Being Too Big To Push To The Curb	11/20	8/20	9/22	10/23	11/17	9/21
Having Neighbors Who Don't Recycle	6/24	7/18	8/22	8/22	8/19	7/19
Not Being Able To Keep Track Of Collection Day	8/16	8/15	5/20	3/16	5/14	7/21
Not Being Sure What To Put In Your Cart	6/16	3/16	6/20	4/18	4/19	6/19

Pct Big Barrier/Pct Big + Somewhat Barrier

Now I am going to read you some things that some people say are barriers to being able to conveniently recycle. Please tell me whether for you personally, each is a big barrier, somewhat of a barrier, a small barrier, or not a barrier at all to being able to conveniently recycle.



Set-Out Rate Analysis

Partners

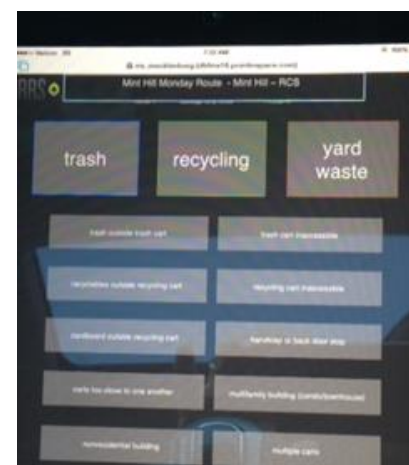


RCS, Inc.

Methodology

RRS designed and executed the set-out rate study conducted by field staff in the towns of **Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville**. The set-out rate study measured the number of **trash and recycling carts that were placed at the curb** for collection on the scheduled service day. We observed **23%** of the homes in the incorporated areas of Mecklenburg County, excluding Charlotte. The sample size varied for each town because of route size, but each sample size was at least 15% of the households in each town.

The set-out rate study was **stratified based on geography by collection route**. Particular routes were identified in each town, based on the total number of households needed to meet our sample size requirements. **Every town conducted garbage collection weekly and recycling collection every other week**. Over a four week period during the month of October 2014 each sample garbage route was observed four times, twice during the “non-recycling” week and twice during “recycling” week. **Recycling cart set out was observed while following the garbage route**. Thus each recycling route sample was observed twice. Field staff followed a garbage truck on the weeks with recycling to document recycling and garbage set-outs and then followed the same garbage truck/routes on the off recycling week. **Set outs were recorded using an iPad interface that also collected other information including GPS data, and comments concerning collection details.**



Methodology



Routes were selected and discussed with each hauler to ensure the observed areas were a representative sample of the overall town.

Field staff were assigned specific routes. One staff person followed each of their assigned routes in a rental vehicle behind the haulers collection vehicle. For Huntersville, Advanced Disposal allowed field staff to ride in the collection vehicle for most of the observed routes.

In two of the six towns there were instances where trash and recycling routes did not mirror each other, and sampling methods were adjusted to account for the varied collection schedule and route inconsistencies.

RRS also matched trash and recycling tonnage data with the specific trucks from the observed **collection routes** to gather the corresponding tonnage information.

If a scheduled observation day was **missed**, it was **made up** on the corresponding collection day in November.





Methodology

In **Cornelius, Davidson, and Matthews** the every-other-week recycling route mirrored the garbage route. Field staff followed garbage trucks and recorded both recycling and garbage set outs.

Pineville – Garbage is collected every Wednesday and recycling is collected every other Thursday. Field staff followed garbage routes every Wednesday for a month (totaling 4 routes) and followed the recycling route that mirrored the garbage route twice in the month of October.

Mint Hill – Recycling routes are split between A and B routes that alternate weeks, thus did not mirror garbage routes. Field staff followed garbage routes then overlaid GPS collection points from app, over the A and B recycling route information from hauler to find the total number of homes observed for each recycling route and garbage route that was observed.

Huntersville – The largest study area of the 6 towns had a variety of routing schedules. The three garbage routes sampled each week did not have a corresponding recycling route that mirrored exactly. Field staff observed: One Monday garbage route four times – twice on recycling week, twice on the non-recycling week and followed the corresponding recycling Wednesday route once. One Thursday garbage route four times, twice on the recycling week and twice on the non-recycling week. The observed Thursday route was split by Interstate 77 with the majority of the route on the East side of the interstate. The Thursday recycling route mirrored almost 95% of the garbage route on the East side. Field staff followed a Thursday recycling route to collect set out data and GPS points to overlay on the garbage route followed. No set out data from the west side of 77 was used in the final analysis. One Friday garbage route four times, twice during recycling week, twice during non-recycling week. The recycling route covered about 95% of the garbage route that was followed.



City	Hauler	# of times and Day/route #/Garbage (G) or Recycling (R) Followed	Total Households observed
Cornelius	Republic	4 Tuesday/2471 G	1049*
		4 Thursday/4471 G	888*
Davidson	Republic	4 Wednesday/3490 G	1021*
Huntersville	Advanced Disposal	4 Monday/ 1603 G	1021*
		1 Wednesday/ 3821 R	1021*
		4 Thursday/ 4605 G	978**
		1 Thursday/ 4820 R	978**
		4 Friday/ 5603 G	894*
Matthews	Republic	4 Monday/ 1482 G	965*
		4 Wednesday/ 3481 G	826*
Mint Hill	RCS	4 Monday G ¹	867**
		4 Tuesday G ²	863**
Pineville	Signature Waste	4 Wednesday/ Auto Route G	1046**
		2 Thursday/ Auto Route R	1046**

- (1) – Observed recycling route Schedule A
 (2) – Observed recycling route Schedule B

- (*) – House count as reported by hauler
 (**) – House count from Mecklenburg County GIS

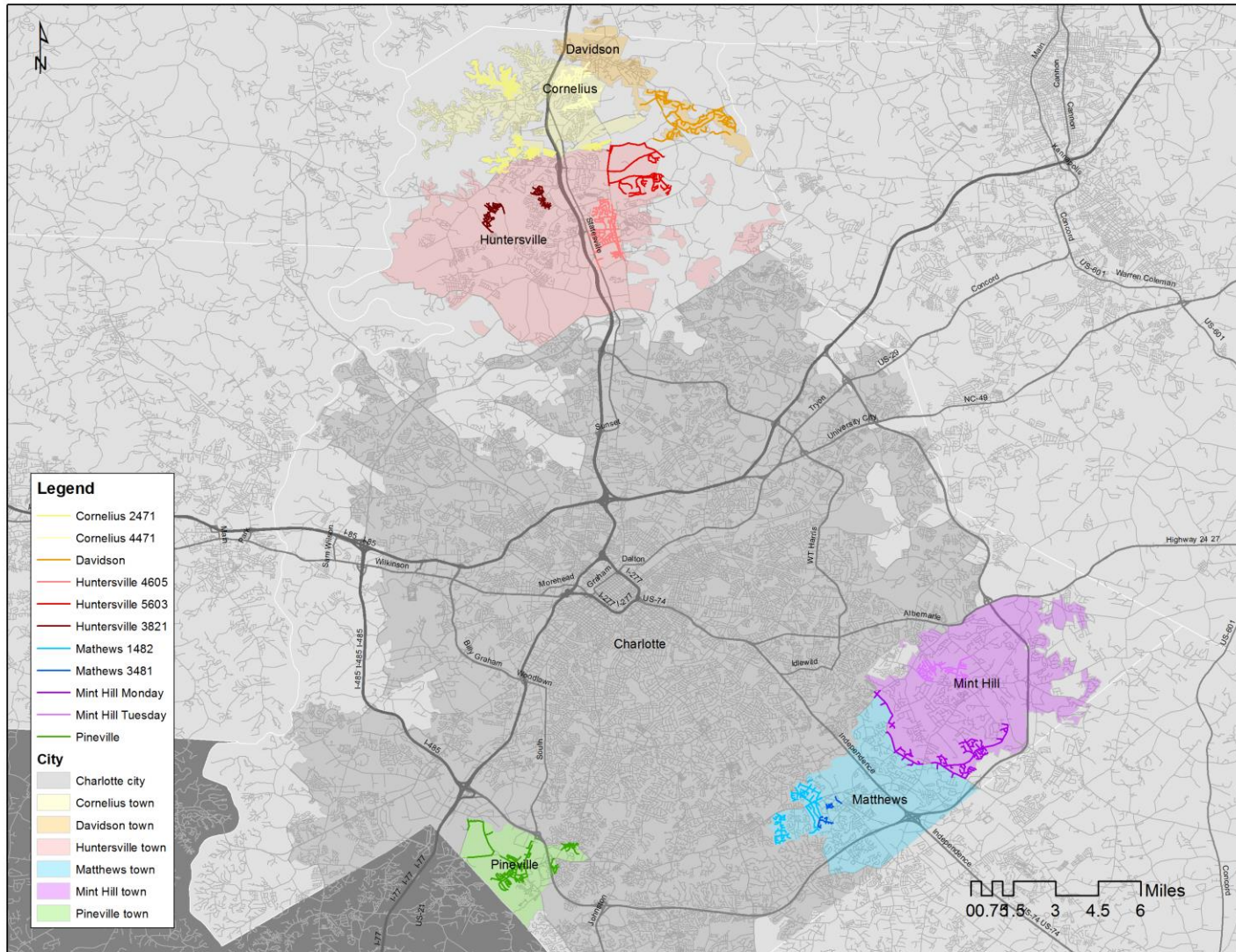
OCTOBER 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT
	29	30	1	2 Cornelius Route 447 Huntersville 4605 (R)	3 Huntersville 5603 (R)	4
5	6 Mint Hill Monday - reschedule Huntersville 1603 (R) - Wed Mathews 1482	7 Mint Hill Tuesday Cornelius 2471(R)	8 Pineville Auto Garbage Davidson 3490 Mathews 3481	9 Pineville Auto Recycling Huntersville 4605 - Rescheduled Cornelius 4471 (R)	10 Huntersville 5603	11
12	13 Mint Hill Monday Huntersville 1603 Mathews 1482 (R) - Reschedule	14 Anne: Mint Hill Tuesday Sandy: Cornelius 2471	15 Pineville Auto Garbage Davidson 3490 ₃ (R) Mathews 3481 (R)	16 Huntersville 4605 (R) Cathie: Cornelius 4471	17 Huntersville 5603 (R)	18
19	20 Mint Hill Monday - reschedule Huntersville 1603 (R) -Wed Mathews 1482	21 Mint Hill Tuesday Cornelius 2471(R)	22 Pineville Auto Garbage Davidson 3490 Mathews 3481	23 Pineville Auto Recycling Huntersville 4605 Cornelius 4471 (R)	24 Huntersville 5603	25
26	27 Mint Hill Monday Huntersville 1603 Mathews 1482 (R)	28 Anne: Mint Hill Tuesday Sandy: Cornelius 2471	29 Pineville Auto Garbage Davidson 3490 ₃ (R) Mathews 3481 (R)	30 Huntersville 4820 Recycling Route	31	1

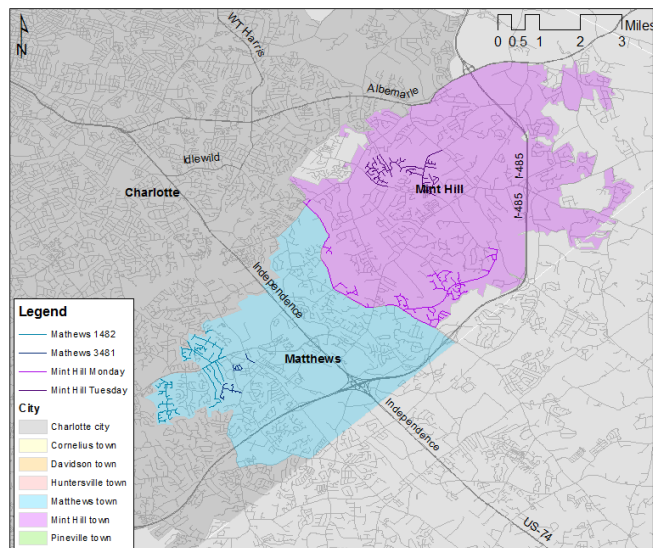
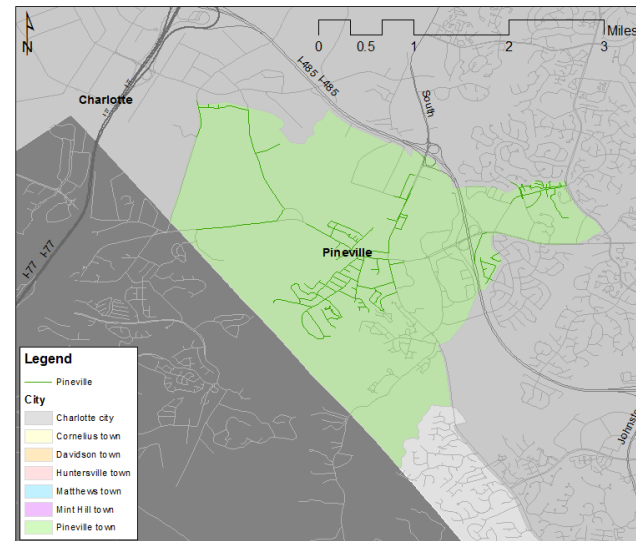
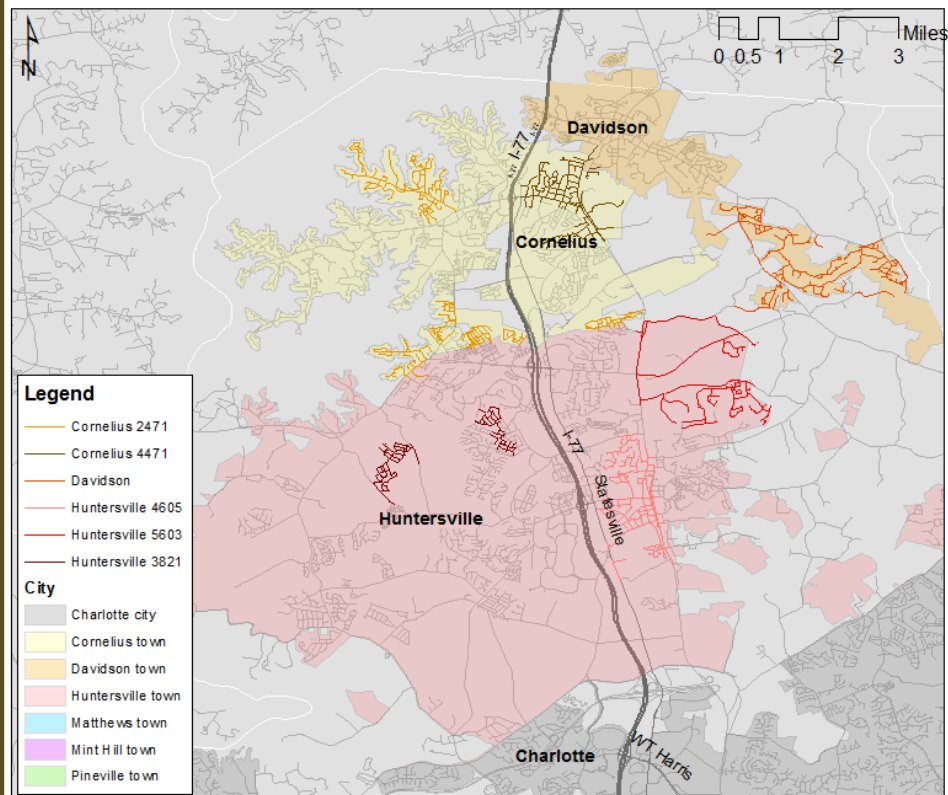
NOVEMBER 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT
2	3	4	5 Huntersville #3821 Recycling Only Route (this close to mirroring Monday 1603 route) followed for recycling set-out data and GPS points	6 Huntersville 4605 Make- up Garbage - Not completed, but got good data from Oct. 30th	7	8
9	10 Mint Hill Monday Make up from Oct 6th					
	Mathews 1482 (R) - Makeup from Oct. 13th		Notes (R)- Corresponding Recycling Day or Week			

Geographic Area Observed



Geographic Area Observed



Set-Out Rate iPad Collection Interface



Customized buttons

- Trash outside trash cart
- Trash cart inaccessible
- Recyclables outside recycling cart
- Recycling cart inaccessible
- Cardboard outside recycling cart
- Handicap or back door stop
- Carts too close to one another
- Multi-family building
- Non-residential building
- Multiple carts



Set-Out vs. Participation Rates

- Participation rates were not studied for this project, unlike the 2009 study. This study observed garbage and recycling set outs over a month period to observe the relationship between the two services.
- Set-out rates from 2014 study should only be compared to set-out rates from 2009 study. Set-out rates cannot be compared to participation rates.

Rates are defined as follows:

- **Participation Rate:** The 2009 study defined participation as the percent of households that participate one or more times in a two-week period. The Solid Waste Association of North America defines Participation as one or more times during a month period.
- **Set-out Rate:** The percent of households that set out recyclables on an average collection day. For the purpose of this study, any house that had a cart at the end of their driveway or at the road in a position ready for collection was considered a “set out”



Set-Out vs. Participation Rates

- Using the 2009 data, participation rates were 13% to 14% higher than observed set-out rates using bins.
- This relationship aligns well with national trends, however participation rates tend to be higher when using carts (e.g. more capacity, thus residents tend not put carts out as frequently as they would have bins).
- Therefore, with a 60% set-out rate, the county can safely assume the participation rate is between 70 and 80%.



Key Findings

11,465 homes
observed
(about 23% of
total
households)

**Overall set-out rate
from the 2009 study
increased 16%
(from 43% to 59%)**
with an estimated
participation rate
increasing roughly
15 to 20% (from
56% to between
70% and 80%)

The average recycling set-out
rate for all towns in
Mecklenburg County is 59%.
This compares to phone
survey data that showed 66%
of residents place their
recycling cart on the curb
every recycling day.

The average set-out rate for garbage
during a recycling week is 4% higher
than the garbage set out during the
non-recycling week (80% vs 76%)

The average recycling pounds per
set-out for all of the towns
combined was about 20 pounds of
recycling per set out.

About 6% of residents place their
recycling cart at the curb during
their garbage only week. In the
case of Pineville where all
residents have a separate
recycling collection day from their
trash collection day, that number
was 1%.

As a whole the garbage pounds
per set-out during the recycling
week and non-recycling week
were virtually the same, however
this data point was different for
each town.



Davidson had
the highest
pounds of
recycling per
set out at 38
pounds.

Pineville
has the
lowest
pounds of
recycling
per set out
at 10
pounds.

Overall Results

59% Average recycling set out

6% set out their recycling cart on weeks when recyclables were not collected.

The average recycling cart contained
20 pounds
of material

The estimated average recycling participation is between **70-80%** in the incorporated areas of Mecklenburg County.

Overall Results

78% Average garbage set out

The average
garbage cart
contained
40 pounds
of material

80% set out
garbage during
recycling week.

76% set out
garbage during
non-recycling
week.

Overall Results



Only **1.5%** of garbage set-outs had extra trash outside of cart.

Only **1%** of recycling set-outs on recycling day had recycling outside of cart.

3% of recycling set-outs that were out on the wrong week had extra recycling outside of the cart.

1% of residents had cardboard outside of their cart on recycling day.

Mint Hill had almost **3%** of set-outs with extra cardboard outside of cart.



Results by Town



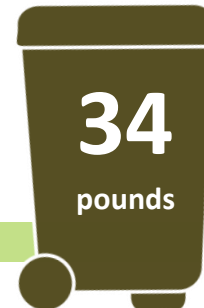
Cornelius

55% Recycling Set out

5% set out recycling cart on non-recycling week

69% set out garbage during recycling week.

64% set out garbage during non-recycling week.



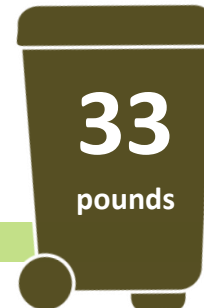
Davidson

69% Recycling Set out

6% set out recycling cart during non-recycling week

96% set out garbage during recycling week.

87% set out garbage during non-recycling week.



Davidson



Notes for the write-up on an agreed upon correction for the recycling lbs/set out number for Davidson.

The original number based on the daily tonnage and household count for the observed recycling route resulted in 43.5 lbs/set out.

After a bit more research it was discovered that 22 commercial accounts were also collected on the observed Wednesday Davidson recycling route.

Due to the higher than average lbs/set out and 22 commercial accounts being collected on route in Davidson, we re-evaluated the tons collected and determined a more accurate and defensible weight to be 38 lbs/set out (or 26 lbs/HH).



Huntersville

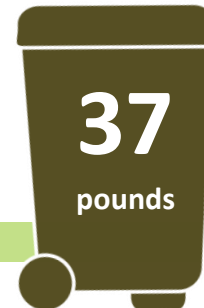
43% Recycling Set out

7% set out recycling cart during non-recycling week

16% of observed households had recycling set-out on their garbage collection day on Monday even though their recycling day was not until Wednesday of that week.

85% set out garbage during recycling week.

83% set out garbage during non-recycling week.



On Wednesday with no garbage collection, almost **50%** of residents had garbage set out.

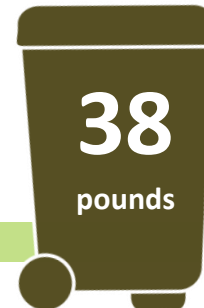
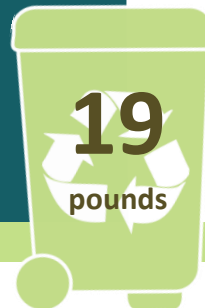
Matthews

56% Recycling Set out

4% set out recycling cart during non-recycling week

66% set out garbage during recycling week.

64% set out garbage during non-recycling week.

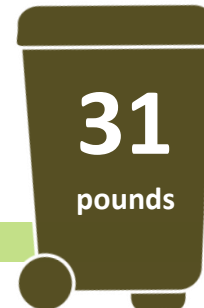


Mint Hill

67% Recycling Set out

**74% set out
garbage during
recycling week.**

**Nearly 3% of set-outs
had extra cardboard
outside cart**



Note: Due to recycling routes A&B splitting the garbage routes, we could not accurately analyze the garbage tonnage on recycling weeks and non-recycling weeks.

Pineville

66% Recycling Set out

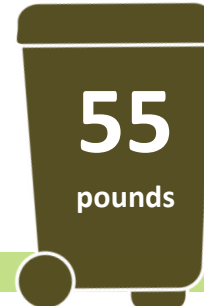
1% set out recycling during non-recycling weeks,

2% set out recycling on garbage day during recycling week.

2% of set outs with extra cardboard outside of cart.

86% set out garbage during recycling week.

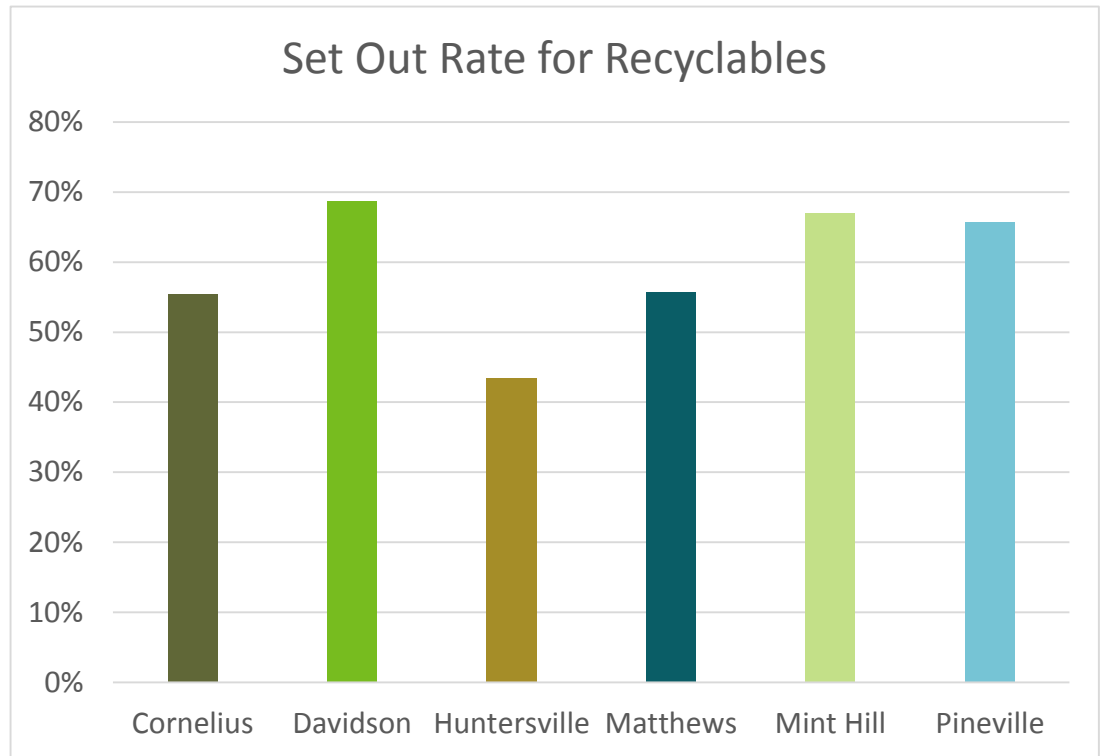
84% set out garbage during non-recycling week.



Only **0.3%** set out garbage on recycling only day.



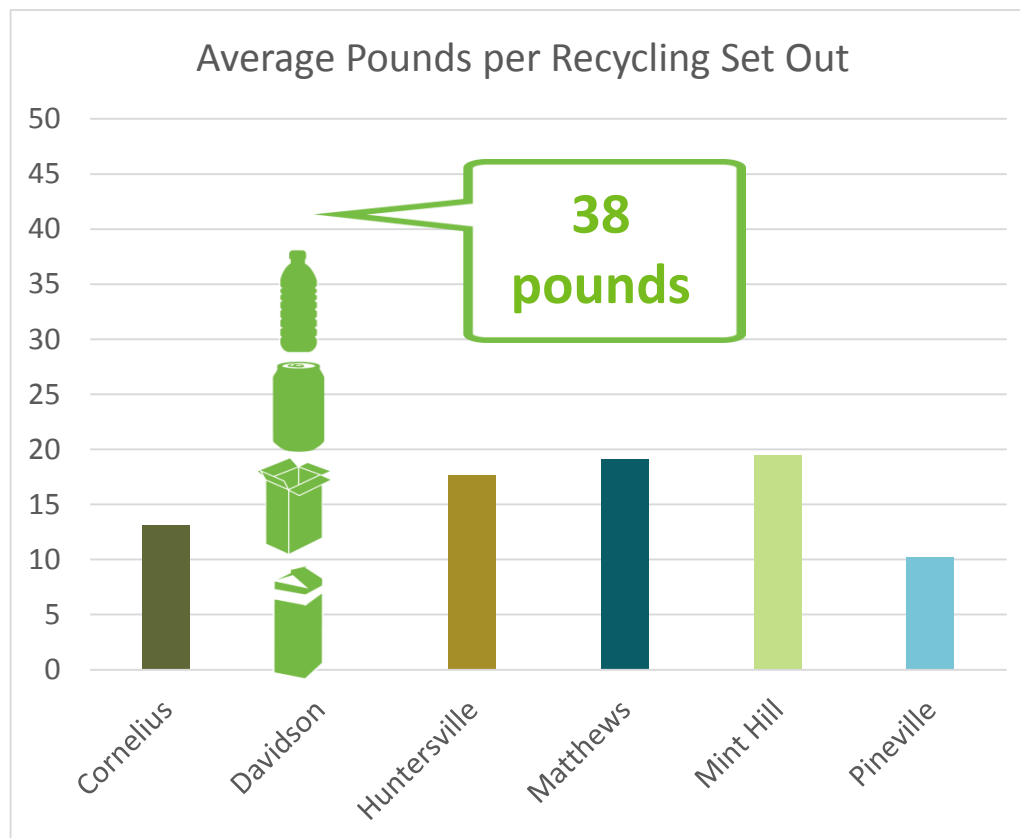
Weekly set-out rates for recycling carts range from 43% in Huntersville to 69% in Davidson



Note: Participation rates are generally 13% to 14% higher than set-out rates



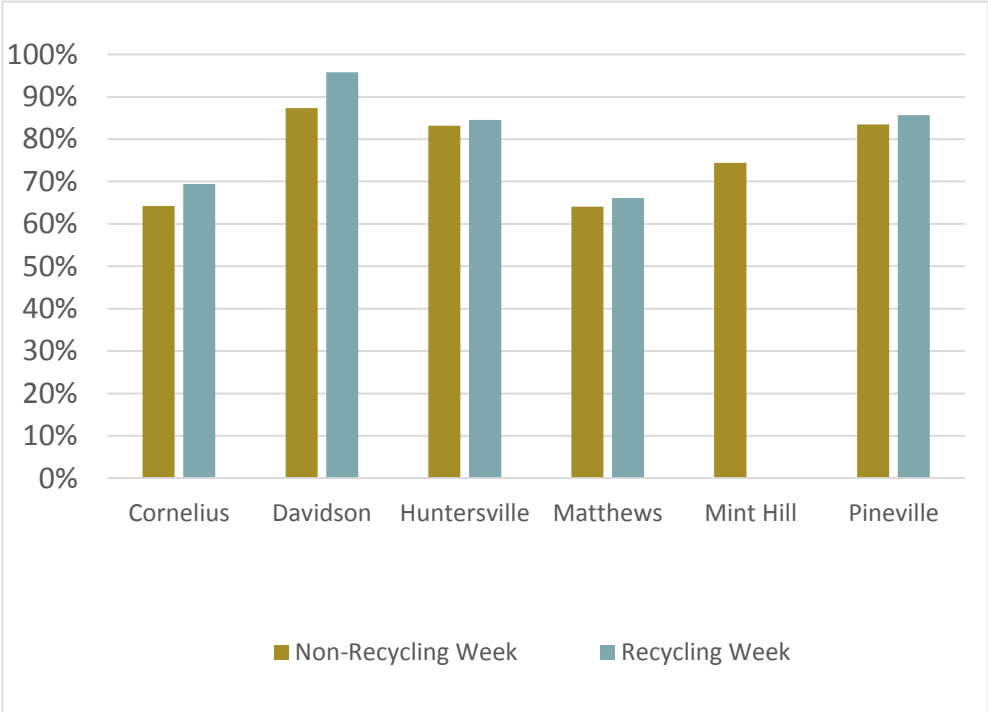
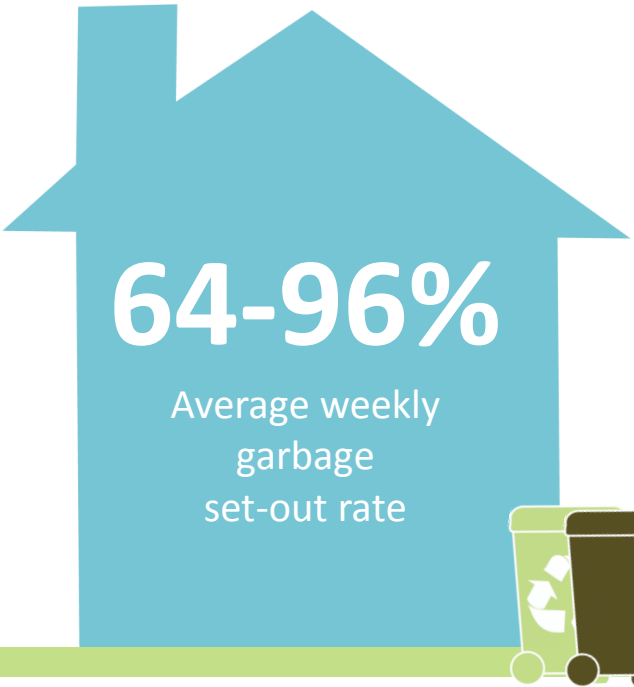
The average amount of material in recycling carts was much higher in Davidson than in other towns, nearly 40 pounds





Weekly set-out rates for garbage ranged from 64 to 96 percent and set out rates were higher in most towns on the weeks when recyclables were collected

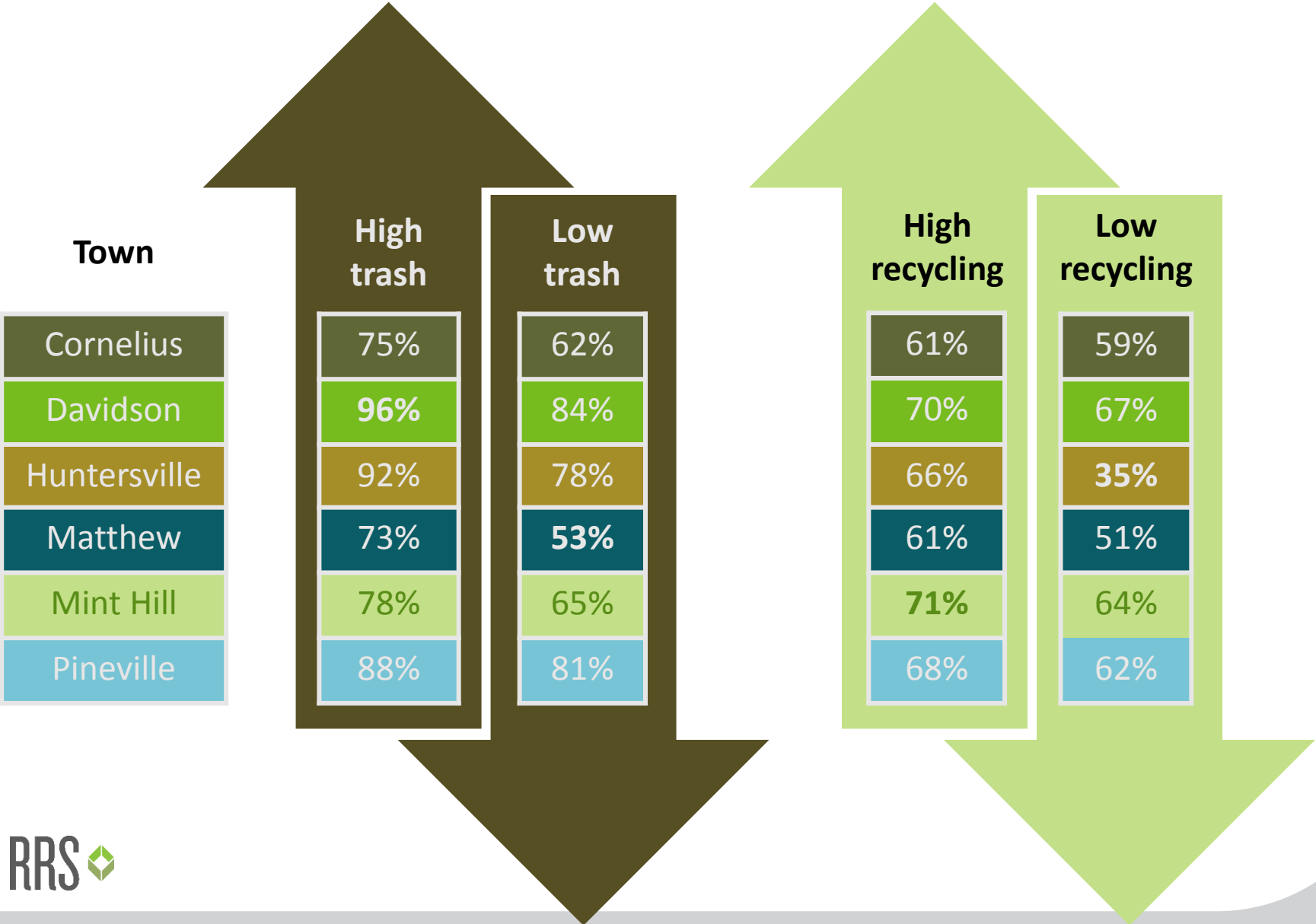
*Average Percent of Households that Set Out Garbage Carts on Sampling Weeks
(Recycling and Non-Recycling Weeks)*



Note: Mint Hill recycling routes A&B split the garbage routes observed, thus no recycling week vs. non recycling week data could be analyzed

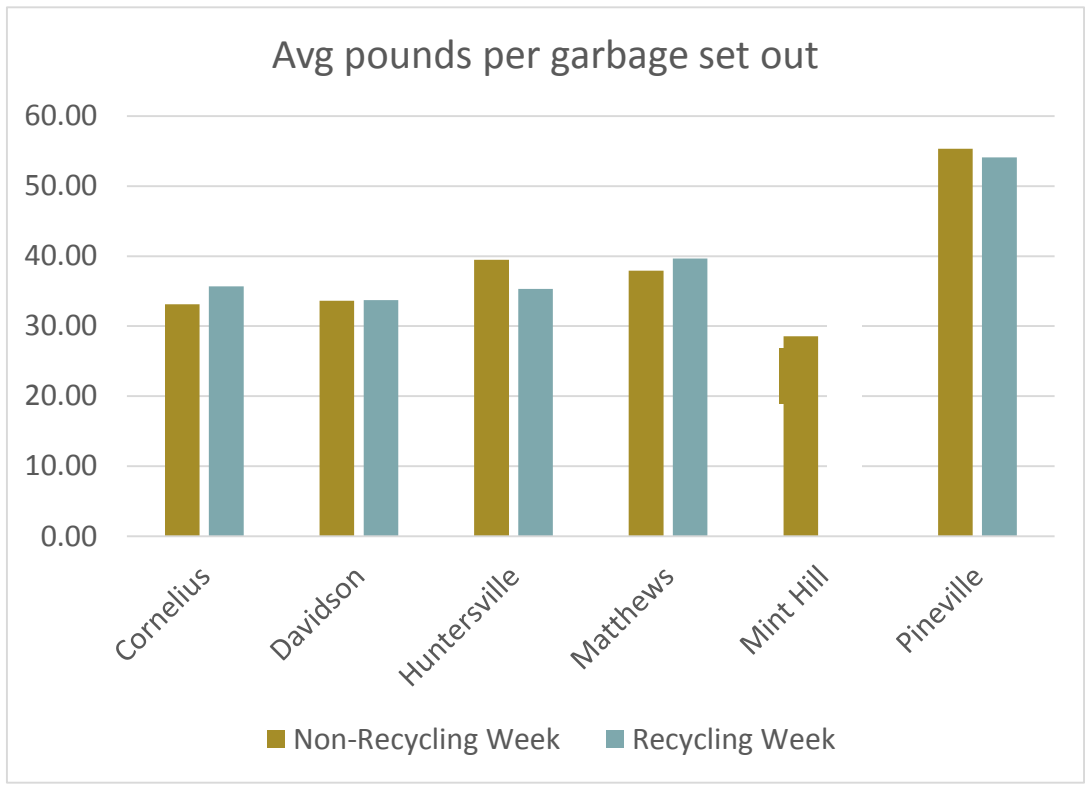


Comparison of high and low set out rate for each town





The average amount of garbage in carts ranged from 28 to 55 pounds with little difference in recycling and non-recycling weeks



Note: Mint Hill recycling routes A&B split the garbage routes observed, thus no recycling week vs. non recycling week data could be analyzed

Comparison to set out rates in other communities



City	Set Out Rate
Cornelius, NC	55%
Davidson, NC	69%
Huntersville, NC	43%
Matthews, NC	56%
Mint Hill, NC	67%
Pineville, NC	66%
Mecklenburg County, NC (town avg)	59%
Cary, NC	66%
Greensboro, NC	63%
Orange County, NC Rural (EOW)	40%
Orange County, NC Urban (EW)	66%
Lansing, MI	62%
Raleigh, NC	56%

Comparison of Study Methodology, 2009 and 2014 – Town Study



2009

- Residents used 18 to 24 gallon bins for recycling
- Followed recycling routes
- 2 week observation period
- 19 different routes observed
- 18,269 HH observed per week

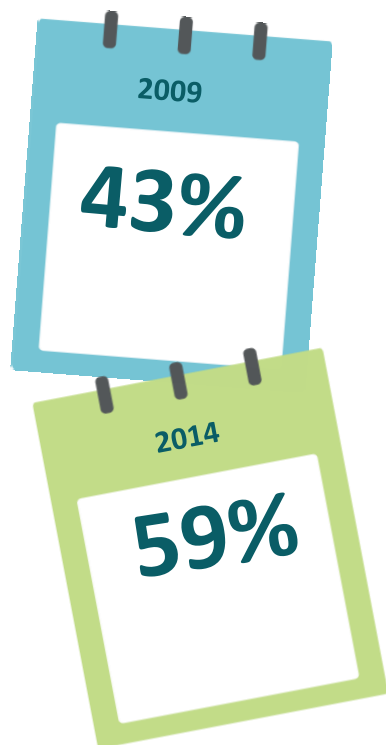
2014

- Residents use roll carts for recycling
- Followed garbage routes (Pineville recycling routes were followed as well as a few other recycling routes for more accurate data)
- 4 week observation period
- Followed 13 different routes
Observed 26 total routes
- 11,465 HH observed per week



Percent of households setting out recycling bin or cart on recycling day... comparing 2009 vs. 2014 across all six towns.

TOTAL



Town	2009	2014
Cornelius	49	55
Davidson	69	69
Huntersville	50	43
Matthews	54	56
Mint Hill	46	67
Pineville	42	66

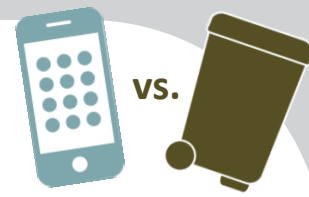


VS.



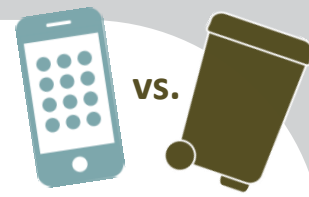
Comparison of Telephone Survey and Set-Out Rate Analysis

Knowledge of recycling day is not an indicator of behavior

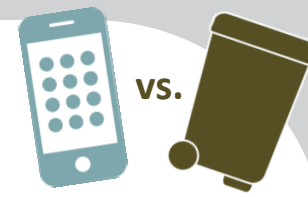


Town	Percent reported that they know recycling day	Percent that set-out recycling cart on recycling day	Percent that reported that they do not know recycling day	Percent that set-out recycling cart on non-recycling day
TOTAL (6 TOWNS COMBINED)	93	59	7	6
Cornelius	93	55	7	5
Davidson	91	69	8	6
Huntersville	95	43	5	7
Matthews	93	56	7	5
Mint Hill	96	67	3	n/a
Pineville	90	66	10	1

Self-reported behavior lines up well with observed behavior



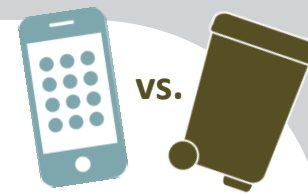
Town	Percent that reported that they set out recycling cart every collection day	Percent that set-out cart
TOTAL	66	59
Cornelius	68	55
Davidson	68	69
Huntersville	65	43
Matthews	63	56
Mint Hill	69	67
Pineville	63	66



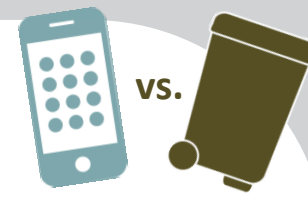
Towns with a higher percentage of residents that say they want weekly collection of recyclables are not necessarily those that have more materials in the carts

Town	Percent that prefer weekly recyclable collection	Percent that set-out cart	Average pounds per set-out
TOTAL	51	59	20
Cornelius	60	55	13
Davidson	50	69	43
Huntersville	49	43	17
Matthews	54	56	19
Mint Hill	47	67	19
Pineville	47	66	10

For most, there does not seem to be a correlation between those that say they wait until cart is full to set it out and the amount of material in the cart.

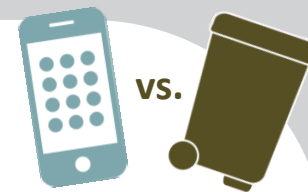


Town	Percent that reported that they wait until recycling cart is full or close to full before setting it out	Percent that set-out cart	Average pounds per set-out
TOTAL	53	59	20
Cornelius	54	55	13
Davidson	55	69	43
Huntersville	48	43	17
Matthews	54	56	19
Mint Hill	53	67	19
Pineville	53	66	10



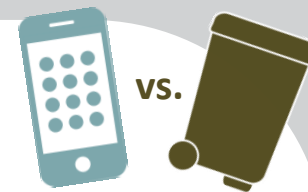
A similar percentage of those surveyed that support a recycling requirement also report setting their cart out every collection day, which relates closely with the set-outs seen in the field.

Town	Percent that supported recycling requirement	Percent that reported that they set out recycling cart every collection day	Percent that set-out cart
TOTAL	63	66	59
Cornelius	66	68	55
Davidson	66	68	69
Huntersville	60	65	43
Matthews	67	63	56
Mint Hill	63	69	67
Pineville	60	63	66



The percentage that report running out of storage space as a barrier to recycling, does not correlate to overflow observed in the field.

Town	Percent that report that running out of space in cart is a barrier to recycling	Percent that had recycling outside of cart	Percent extra OCC outside cart
TOTAL	28	1	1
Cornelius	35	1	.3
Davidson	29	1.5	.2
Huntersville	28	.7	.5
Matthews	24	.7	.7
Mint Hill	24	1	3
Pineville	24	1	2



There is a little confusion about when collection day is. This was reported on the phone survey as well as seen in the field.

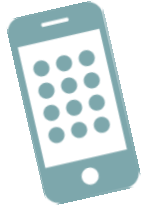
Town	Percent that report not being able to keep track of collection day is a barrier to recycling	Percent that set-out cart on non-recycling day	Rough Estimate of percent not participating*
TOTAL	17	6	26
Cornelius	16	5	30
Davidson	15	6	16
Huntersville	20	7	42
Matthews	16	4	29
Mint Hill	14	n/a	18
Pineville	21	1	19

*A factor of 15% was used as a participation rate variable

Conclusions and Recommendations



Conclusions



Phone Survey

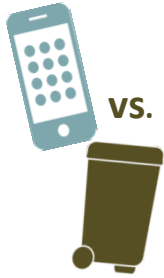
- Throughout the County, residents say they **support** requirements for recycling. However, majority do **NOT** support enforcement.
- **No** County residents (Charlotte or other municipalities) are ready to go to every other week garbage collection without some significant outreach and education.
- Support for plastic bag use for yard waste **seems high** (and for paper bags seems low).
- Generally, results of survey responses among various demographics in City of Charlotte and in the other municipalities are **very similar**.



Set Out Study

- The average set out rate was **16% higher** in the 2014 study than the 2009 study.
- Davidson had **more than twice the amount** (by weight) of recyclables in carts set out for collection than any other towns.

Conclusions



Comparison

- More residents reported that they set out their cart every collection day (66 percent) than the actual set-out rate reflected (59%).
- The difference between those that said they set out carts every collection day and those that had them out every collection day was **greatest in Cornelius and Huntersville.**
- Towns with higher percentage of residents that say they want weekly collection of recyclables are **not necessarily** those that have carts out every collection day or have more materials in the carts that they do set out.
- Except for Davidson, there **does not** seem to be a correlation between those that say they wait until cart is full to set it out and the amount of material in the cart.
- Of the three towns that had the **highest level of support for a participation requirement** (two-thirds or more), two (Matthews and Cornelius) had among the lowest set-out rates.

Recommendations

Make sure City and County websites are **consistent** with same terms and images and have collection days listed.

Re-route Huntersville garbage and recycling routes to be more aligned. This can provide more consistency for residents.

Look into **collection day reminder software** like ReCollect for citizens to get regular reminders on when collection day is – coupled with direct mail calendar cards.

Promote City and County websites and 3-1-1, and make sure each has consistent, detailed and current information about programs.

Recommendations

Consider a residential disposal and landfill ban on cardboard (easy to identify) similar to what Chapel Hill/Orange County have in place to realize more waste diversion.

To improve delivery of curbside collection services municipalities may want to consider taking customer service calls in-house as part of contract management.

Based on the results of the phone survey, a targeted campaign for increased paper and boxboard recycling will help increase the recovery in each community.

Consider a special campaign educating residents about the County convenience centers to help alleviate minor issues with overflowing garbage or recycling.

Recommendations

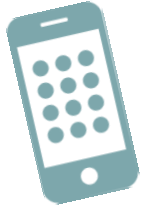
Consider doing a **waste composition study** on what materials are in the recycling container .

It would be interesting to **check contamination rates**. Do those with higher weights per collected cart have higher contamination rates?

Use **outreach** for convenience centers that target demographics of Pineville and Matthews.

Complete a **cost benefit analysis** on moving garbage to every other week and/or recycling to weekly collection. The set out rate survey showed data that could support this type of transition, but the total cost would need to be evaluated.

Final Thoughts



- If County or municipalities choose to require recycling, you will need to **build support** for enforcement and be prepared for objections.
- If weekly collection is preferred for recyclables, **outreach in Charlotte should be focused** to residents in the northern half of the city, non-whites, and younger residents.
- If EOW garbage collection is considered, **a pilot program** with significant outreach and education is recommended as a starting point.
- **Target residents** in townhouses/attached housing and survey to find out their needs to improve their satisfaction w/ recycling program.



- Is a 69% set out rate the upper limit for **what the towns should aspire to?**
- This was the **highest set out rate** reported in both 2009 and 2014, each time in Davidson.



Managing Change in a Resource-Constrained World.

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